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OM nucleic - nucleic search, using bw model

Run on: October 30, 2004, 16:20:47 ; Search time 1426 seconds  
(without alignments)  
729.575 Million cell updates/sec

Title: US-09-802-376-1

Perfect score: 22  
Sequence: 1 TGACGTGACGTCGAGATGA 22

Scoring table: IDENTITY NUC  
Gapop 10.0, Gapext 1.0

Searched: 4526729 seqs, 23644849745 residues

Total number of hits satisfying chosen parameters: 9053458

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%

Maximum Match 100%  
Listing first 45 summaries

Database :

GenEmbl: \*  
1: gb\_ba: \*  
2: gb\_hcg: \*  
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9: gb\_pr: \*  
10: gb\_ro: \*  
11: gb\_srf: \*  
12: gb\_sy: \*  
13: gb\_un: \*  
14: gb\_vl: \*

Pred. No. is the number of results predicted by chance to have a  
score greater than or equal to the score of the result being printed,  
and is derived by analysis of the total score distribution.

#### SUMMARIES

Result No.	Score	Query Match	Length	DB ID	Description
1	22	100.0	22	6	BD182369 Anti-tumo
2	22	100.0	22	6	BD185615 Anti-tumo
3	22	100.0	22	6	BD190435 Microemul
4	22	100.0	22	6	BD228690 Methods a
5	22	100.0	22	6	BD233617 Immunosci
6	22	100.0	22	6	BD251283 Enhanceme
7	22	100.0	22	6	BD272057 Use of st
8	22	100.0	22	6	AR268334 Sequence
9	22	100.0	22	6	AR287741 Sequence
10	22	100.0	22	6	AR287743 Sequence
11	22	100.0	22	6	AR308057 Sequence
12	22	100.0	22	6	AR352573 Sequence
13	22	100.0	22	6	AR383158 Sequence
14	22	100.0	22	6	AR392162 Sequence
15	22	100.0	22	6	AX036945 Sequence
16	22	100.0	22	6	AX046993 Sequence
17	22	100.0	22	6	AX083675 Sequence
18	22	100.0	22	6	AX135650 Sequence
19	22	100.0	22	6	AX148636 Sequence

20	22	100.0	22	6	AX250701 Sequence
21	22	100.0	22	6	AX252291 Sequence
22	22	100.0	22	6	AX252509 Sequence
23	22	100.0	22	6	AX252520 Sequence
24	22	100.0	22	6	AX252934 Sequence
25	22	100.0	22	6	AX253113 Sequence
26	22	100.0	22	6	AX253123 Sequence
27	22	100.0	22	6	AX468499 Sequence
28	22	100.0	22	6	AX592312 Sequence
29	22	100.0	22	6	AX592350 Sequence
30	22	100.0	22	6	AX592369 Sequence
31	22	100.0	22	6	AX720306 Sequence
32	22	100.0	22	6	BD009235 Immunosc1
33	22	96.4	22	6	AX250707 Sequence
34	21	95.5	22	6	BD233630 Immunosc1
35	21	95.5	22	6	AR352586 Sequence
36	21	95.5	22	6	AX083681 Sequence
37	21	95.5	22	6	AX148642 Sequence
38	21	95.5	22	6	AX252297 Sequence
39	21	95.5	22	6	AX252515 Sequence
40	21	95.5	22	6	AX252526 Sequence
41	21	95.5	22	6	AX252940 Sequence
42	21	95.5	22	6	AX253119 Sequence
43	21	95.5	22	6	AX253129 Sequence
44	21	95.5	22	6	AX592341 Sequence
45	21	95.5	22	6	AX592347 Sequence

#### ALIGNMENTS

RESULT 1  
BD182369  
LOCUS Anti-tumor antigens or their epitopes against HTLV-1 tumor.  
DEFINITION BD182369  
ACCESSION BD182369.1 GI:30793287  
VERSION WO 02090981-A/1.  
KEYWORDS synthetic construct  
SOURCE  
ORGANISM  
REFERENCE  
1 (bases 1 to 22)  
AUTHORS Hanabuchi, S., Ohashi, T. and Kannagi, M.  
TITLE Anti-tumor antigens or their epitopes against HTLV-1 tumor  
JOURNAL Patent: WO 02090981-A 14-NOV-2002;  
JAPAN SCIENCE AND TECHNOLOGY CORP, SHINO HANABUCHI, TAKASHI OHASHI,  
MARI KANNAGI  
COMMENT  
OS Artificial Sequence  
PN WO 02090981-A/1  
PD 14-NOV-2002  
PF 02-MAY-2002 WO 2002JP004406  
PR 08-MAY-2001 JP 01P 137526  
PI SHINO HANABUCHI, TAKASHI OHASHI, MARI KANNAGI  
PC GOIN33/50, GOIN33/15, A6IK39/00  
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Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;  
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DB 1 TGACGTGACGTCGAGATGA 22

RESULT 2  
BD185615 22 bp DNA linear PAT 17-JUN-2003  
LOCUS Anti-tumor antigens or their epitopes against HTLV-I tumor.  
DEFINITION  
ACCESSION BD185615  
VERSION BD185615.1 GI:31877815  
KEYWORDS JP 2002372532-A/1.  
SOURCE synthetic construct  
ORGANISM synthetic construct  
artificial sequences.  
REFERENCE 1 (bases 1 to 22)  
AUTHORS Hanabuchi,S., Ohashi,T. and Kannagi,M.  
TITLES Anti-tumor antigens or their epitopes against HTLV-I tumor  
JOURNAL Patent: JP 2002372532-A 1 26-DEC-2002;  
JAPAN SCIENCE AND TECHNOLOGY CORP  
COMMENT OS Artificial Sequence  
PN JP 2002372532-A/1  
PD 26-DEC-2002 JP 2001137526  
PF 08-MAY-2001 JP 2001137526  
PI SHINO HANABUCHI, TAKASHI OHASHI, MARI KANNAGI  
PC G01N33/50,A61K39/00,A61P35/02,A61P37/04,  
PC C07K7/06,  
PC C12N5/06,C12Q1/02,G01N33/00,G01N33/15,G01N33/53,G01N33/53, PC  
G01N33/566,  
PC G01N33/574  
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1 TGACTGTGAACGTTGAGATGA 22

RESULT 3  
BD190435 22 bp DNA linear PAT 17-JUL-2003  
LOCUS Microemulsions with Adsorbed Macromolecules and Microparticles.  
DEFINITION  
ACCESSION BD190435  
VERSION BD190435.1 GI:33000174  
KEYWORDS JP 2002537102-A/19.  
SOURCE synthetic construct  
ORGANISM synthetic construct  
artificial sequences.  
REFERENCE 1 (bases 1 to 22)  
AUTHORS Barackman,V., Simph,M., Ugozoli,M., Kazazu,J., Donnelly,J.,  
TITLES Oct.G.S. and Ohagan,D.  
JOURNAL Microemulsions with Adsorbed Macromolecules and Microparticles  
Patent: JP 2002537102-A 19 05-NOV-2002;  
Chilton Corporation  
COMMENT OS Artificial Sequence  
PN JP 2002537102-A/19  
PD 05-NOV-2002  
PF 09-FEB-2000 JP 2000600618  
PR 29-JUL-1999 US 60/163391,28-OCT-1999 US 60/161997, PR  
26-FEB-1999 US 60/121858  
PI John Barackman,manmohan simph,mildred ugozoli,jina kazazu,john  
PI donnelly,  
PI gary s oct,derek ohagan  
CC Oligonucleotide

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1 TGACTGTGAACGTTGAGATGA 22

RESULT 4  
BD228690 22 bp DNA linear PAT 17-JUL-2003  
LOCUS Methods and adjuvants for stimulating mucosal immunity.  
DEFINITION  
ACCESSION BD228690  
VERSION BD228690.1 GI:33038460  
KEYWORDS JP 2002526425-A/19.  
SOURCE synthetic construct  
ORGANISM synthetic construct  
artificial sequences.  
REFERENCE 1 (bases 1 to 22)  
AUTHORS Raz,E., Horner,A.A. and Carson,D.A.  
TITLES Methods and adjuvants for stimulating mucosal immunity  
JOURNAL Patent: JP 2002526425-A 19 20-AUG-2002;  
THE REGENTS OF THE UNIVERSITY OF CALIFORNIA  
COMMENT OS Artificial Sequence  
PN JP 2002526425-A/19  
PD 20-AUG-2002  
PF 15-SEP-1999 JP 2000573397  
PR 05-OCT-1998 US 09/167039  
PI ETAL RAZ,ANTHONY A HORNER,DENNIS A CARSON  
PC A61K39/39,A61K31/7088,A61K31/7105,A61K31/711,A61P11/00 PC  
PC A61P27/14,A61P37/04,  
PC C12N15/09,G01N33/15,G01N33/50//C12N5/10,G01N33/531,C12N15/00,  
PC C12N5/00  
CC non-coding oligonucleotides  
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1 ||||||||||||||||||  
1 TGACTGTGAACGTTGAGATGA 22

RESULT 5  
BD233617 22 bp DNA linear PAT 17-JUL-2003  
LOCUS Immunostimulatory oligonucleotides, compositions thereof and  
DEFINITION methods of use thereof.  
ACCESSION BD233617  
VERSION BD233617.1 GI:33043387  
KEYWORDS JP 2002517156-A/2.  
SOURCE unidentified  
ORGANISM unidentified  
unclassified.

REFERENCE 1 (bases 1 to 22)  
AUTHORS Schwartz,D., Roman,M., Dina,D. and Raz,E.  
TITLE Immunostimulatory oligonucleotides, compositions thereof and methods of use thereof  
JOURNAL Patent: JP 2002517156-A 2 11-JUN-2002;  
DYNAMAX TECHNOLOGIES CORP  
COMMENT OS Unidentified  
PN JP 2002517156-A/2  
PD 11-JUN-2002  
PF 05-JUN-1998 JP 199502884  
PR 06-JUN-1997 US 60/048793  
PI DAVID SCHWARTZ, MARK ROMAN, DINO DINA, EYAL RAZ  
PC C12N15/09, A61K31/7088, A61K31/7115, A61P37/02, A61P43/00, C12Q1/68, PC C12N15/00  
CC Strandedness: Single;  
CC Topology: Linear;  
CC Immunostimulatory oligonucleotides, compositions thereof and methods of use thereof  
CC use thereof  
FH Key  
FT source  
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QY 1 TGAAGTGAACGTTGAGATGA 22  
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1 TGACTGTGAACGTTGAGATGA 22

Db 1 TGACTGTGAACGTTGAGATGA 22

RESULT 6  
BD251283  
LOCUS BD251283 22 bp DNA linear PAT 17-JUL-2003  
DEFINITION Enhancement of Neisseria antigen bactericidal activity using CG motif-containing oligonucleotide.  
ACCESSION BD251283  
VERSION BD251283.1 GI:33061053  
KEYWORDS JP 2002537353-A/19.  
SOURCE synthetic construct  
ORGANISM synthetic construct  
REFERENCE 1 (bases 1 to 22)  
AUTHORS Grandi,G., Rapunoli,R., Giuliani,M.M. and Pizze,M.  
TITLE Enhancement of Neisseria antigen bactericidal activity using CG motif-containing oligonucleotide  
JOURNAL Patent: JP 2002537353-A 19 05-NOV-2002;  
CHIRON SPA  
COMMENT OS Artificial Sequence  
PN JP 2002537353-A/19  
PD 05-NOV-2002  
PF 09-FEB-2000 JP 200600685  
PR 26-FEB-1999 US 60/121792  
PI GUIDO GRANDI, RINO RAPUNOLI, MARZIA MONICA GIULIANI, MARIAGRAZIA PIZZA  
PC A61K39/095, A61K31/7088, A61K39/39, A61P31/04//C07K14/22, C12N15/09, C12N15/00  
CC oligonucleotide adjuvant  
FH Key  
FT source  
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Best Local Similarity 100.0%; Pred. No. 0.46;  
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Db 1 TGACTGTGAACGTTGAGATGA 22

RESULT 7  
BD272057  
LOCUS BD272057 22 bp DNA linear PAT 17-JUL-2003  
DEFINITION Use of stabilized oligonucleotide for producing agents having antitumor activity.  
ACCESSION BD272057  
VERSION BD272057.1 GI:33081825  
KEYWORDS JP 2002539265-A/2.  
SOURCE synthetic construct  
ORGANISM synthetic construct  
REFERENCE 1 (bases 1 to 22)  
AUTHORS Carpenter,A.  
TITLE Use of stabilized oligonucleotide for producing agents having antitumor activity  
JOURNAL Patent: JP 2002539265-A 2 19-NOV-2002;  
ASSISTANCE PUBLIQUE HOPITAUX DE PARIS, INSTITUT NATIONAL DE LA SANTE ET DE LA RECHERCHE MEDICALE (INSERM)  
COMMENT OS Artificial Sequence  
PN JP 2002539265-A/2  
PD 19-NOV-2002  
PF 17-MAR-2000 JP 200606246  
PR 19-MAR-1999 FR 99/03433  
PI ANTOINE CARPENTIER  
PC A61K47/48, A61K31/711, A61P35/00  
CC Description of the Artificial Sequence: oligodeoxynucleotide  
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Db 1 TGACTGTGAACGTTGAGATGA 22

RESULT 8  
AR268334  
LOCUS AR268334 22 bp DNA linear PAT 10-APR-2003  
DEFINITION Sequence 19 from patent US 6498148.  
ACCESSION AR268334  
VERSION AR268334.1 GI:2969684  
KEYWORDS Unknown.  
SOURCE Unknown.  
ORGANISM Unknown.  
REFERENCE 1 (bases 1 to 22)  
AUTHORS Raz,E.  
TITLE Immunization-free methods for treating antigen-stimulated inflammation in a mammalian host and shifting the host's antigen immune responsiveness to a Th1 phenotype  
JOURNAL Patent: US 6498148-A 19 24-DEC-2002;

FEATURES Location/Qualifiers  
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RESULT 9  
AR287741 22 bp DNA linear PAT 12-JUN-2003  
LOCUS AR287741  
DEFINITION Sequence 1 from patent US 6534062.  
ACCESSION AR287741  
VERSION AR287741.1 GI:31674761  
KEYWORDS  
SOURCE Unknown.  
ORGANISM Unclassified.

REFERENCE 1 (bases 1 to 22)  
AUTHORS Raz, E., Cho, H. J., Richman, D., and Horner, A. A.  
TITLE Methods for increasing a cytotoxic T lymphocyte response in vivo  
JOURNAL Patent: US 6534062-A 1 18-MAR-2003;  
FEATURES Location/Qualifiers  
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RESULT 10  
AR287743 22 bp DNA linear PAT 12-JUN-2003  
LOCUS AR287743  
DEFINITION Sequence 3 from patent US 6534062.  
ACCESSION AR287743  
VERSION AR287743.1 GI:31674763  
KEYWORDS  
SOURCE Unknown.  
ORGANISM Unclassified.

REFERENCE 1 (bases 1 to 22)  
AUTHORS Raz, E., Cho, H. J., Richman, D., and Horner, A. A.  
TITLE Methods for increasing a cytotoxic T lymphocyte response in vivo  
JOURNAL Patent: US 6534062-A 3 18-MAR-2003;  
FEATURES Location/Qualifiers  
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RESULT 11  
AR308057 22 bp DNA linear PAT 12-JUN-2003  
LOCUS AR308057  
DEFINITION Sequence 1 from patent US 6552006.  
ACCESSION AR308057  
VERSION AR308057.1 GI:31698950  
KEYWORDS  
SOURCE Unknown.  
ORGANISM Unclassified.

REFERENCE 1 (bases 1 to 22)  
AUTHORS Raz, E., Kornbluth, R., Catanzaro, A., Hayashi, T., and Carson, D.  
TITLE Immunomodulatory polynucleotides in treatment of an infection by an intracellular pathogen  
JOURNAL Patent: US 6552006-A 1 22-APR-2003;  
FEATURES Location/Qualifiers  
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Qy 1 TGAAGTGAACGTTGAGATGA 22  
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RESULT 12  
AR352573 22 bp DNA linear PAT 17-AUG-2003  
LOCUS AR352573  
DEFINITION Sequence 2 from patent US 6589940.  
ACCESSION AR352573  
VERSION AR352573.1 GI:33757824  
KEYWORDS  
SOURCE Unknown.  
ORGANISM Unclassified.

REFERENCE 1 (bases 1 to 22)  
AUTHORS Raz, E., Roman, M., and Dina, D.  
TITLE Immunostimulatory oligonucleotides, compositions thereof and methods of use thereof  
JOURNAL Patent: US 6589940-A 2 08-JUL-2003;  
FEATURES Location/Qualifiers  
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RESULT 13  
AR383158 22 bp DNA linear PAT 18-DEC-2003  
LOCUS AR383158  
DEFINITION Sequence 1 from patent US 6610661.  
ACCESSION AR383158  
VERSION AR383158.1 GI:40092605  
KEYWORDS  
SOURCE Unknown.  
ORGANISM Unclassified.

REFERENCE 1 (bases 1 to 22)  
AUTHORS Carson, D. A., Raz, E., and Roman, M.  
TITLE Immunostimulatory polynucleotide/immunomodulatory molecule



JOURNAL conjugates  
Patent: US 6610661-A 1 26-AUG-2003;  
FEATURES  
Location/Qualifiers  
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RESULT 14  
LOCUS AR392162 22 bp DNA linear PAT 18-DEC-2003  
DEFINITION Sequence 1 from patent US 6613751.  
ACCESSION AR392162  
VERSION AR392162.1 GI:40116139  
KEYWORDS  
SOURCE unknown.  
ORGANISM unknown.  
REFERENCE 1 (bases 1 to 22)  
AUTHORS Raz, E. and Rachmilewitz, D.  
TITLE Method for treating inflammatory bowel disease and other forms of  
gastrointestinal inflammation  
JOURNAL Patent: US 6613751-A 1 02-SEP-2003;  
FEATURES  
Location/Qualifiers  
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RESULT 15  
LOCUS AX036945 22 bp DNA linear PAT 16-NOV-2000  
DEFINITION Sequence 2 from Patent FR2790955.  
ACCESSION AX036945  
VERSION AX036945.1 GI:11226373  
KEYWORDS  
SOURCE synthetic construct  
ORGANISM synthetic construct  
REFERENCE 1  
AUTHORS Carpentier, A.  
JOURNAL Patent: FR 2790955-A 2 22-SEP-2000;  
ASSIST PUBLI HOPITAUX DE PARIS (FR)  
FEATURES  
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LOCUS AX046993 22 bp DNA linear PAT 15-DEC-2000  
DEFINITION Sequence 2 from Patent WO0067787.  
ACCESSION AX046993  
VERSION AX046993.1 GI:11876420  
KEYWORDS  
SOURCE synthetic construct  
ORGANISM synthetic construct  
REFERENCE 1  
AUTHORS Moss, R. B.  
TITLE HIV immunogenic compositions and methods  
JOURNAL Patent: WO 0067787-A 2 16-NOV-2000;  
THE IMMUNE RESPONSE CORPORATION (US)  
FEATURES  
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## ORIGIN

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Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 TGAAGTGAACGTTGAGATGA 22  
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RESULT 17  
LOCUS AX083675 22 bp DNA linear PAT 28-FEB-2001  
DEFINITION Sequence 1 from Patent WO0112223.  
ACCESSION AX083675  
VERSION AX083675.1 GI:13185407  
KEYWORDS  
SOURCE synthetic construct  
ORGANISM synthetic construct  
REFERENCE 1  
AUTHORS van Neest, G.  
TITLE Methods of modulating an immune response using immunostimulatory s  
sequences and compositions for use therein  
JOURNAL Patent: WO 0112223-A 1 22-FEB-2001;  
Dynavax Technologies Corporation (US)  
FEATURES  
Location/Qualifiers  
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/mol\_type="unassigned DNA"  
/db\_xref="taxon:32630"  
/note="synthetic construct"

## ORIGIN

Query Match 100.0%; Score 22; DB 6; Length 22;  
Best Local Similarity 100.0%; Pred. No. 0.46;  
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 TGAAGTGAACGTTGAGATGA 22  
|||||  
1 TGAAGTGAACGTTGAGATGA 22

RESULT 18  
AX135650

LOCUS AX135650 22 bp DNA linear PAT 29-MAY-2001  
DEFINITION Sequence 21 from Patent WO0132877.  
ACCESSION AX135650  
VERSION AX135650.1 GI:14271920  
KEYWORDS  
SOURCE . synthetic construct  
ORGANISM synthetic construct  
REFERENCE  
1  
AUTHORS Mackichan,M.L.  
TITLE Cpg receptor (Cpg-r) and methods relating thereto  
JOURNAL Patent: WO 0132877-A 21 10-MAY-2001;  
CHIRON CORPORATION (US)  
FEATURES  
source Location/Qualifiers  
1..22  
/organism="synthetic construct"  
/mol\_type="unassigned DNA"  
/db\_xref="taxon:32630"  
/note="Cpg oligonucleotide"

ORIGIN  
Query Match 100.0%; Score 22; DB 6; Length 22;  
Best Local Similarity 100.0%; Pred. No. 0.46; Mismatches 0; Indels 0; Gaps 0;  
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 TGACTGTGAACGTTGAGATGA 22  
|||||  
1 TGACTGTGAACGTTGAGATGA 22

Db 1 TGACTGTGAACGTTGAGATGA 22

RESULT 19  
LOCUS AX148636 22 bp DNA linear PAT 08-JUN-2001  
DEFINITION Sequence 1 from Patent WO0135991.  
ACCESSION AX148636  
VERSION AX148636.1 GI:14347254  
KEYWORDS  
SOURCE . synthetic construct  
ORGANISM synthetic construct  
REFERENCE  
1  
AUTHORS Tuck,S. and van Nest,G.  
TITLE Immunomodulatory compositions containing an immunostimulatory  
sequence linked to antigen and methods of use thereof  
JOURNAL Patent: WO 0135991-A 1 25-MAY-2001;  
Dynavax Technologies Corporation (US)  
FEATURES  
source Location/Qualifiers  
1..22  
/organism="synthetic construct"  
/mol\_type="unassigned DNA"  
/db\_xref="taxon:32630"  
/note="synthetic construct"

ORIGIN  
Query Match 100.0%; Score 22; DB 6; Length 22;  
Best Local Similarity 100.0%; Pred. No. 0.46; Mismatches 0; Indels 0; Gaps 0;  
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 TGACTGTGAACGTTGAGATGA 22  
|||||  
1 TGACTGTGAACGTTGAGATGA 22

Db 1 TGACTGTGAACGTTGAGATGA 22

RESULT 20  
LOCUS AX250701 22 bp DNA linear PAT 06-OCT-2001  
DEFINITION Sequence 1 from Patent WO0168078.  
ACCESSION AX250701  
VERSION AX250701.1 GI:15984439  
KEYWORDS  
SOURCE . synthetic construct  
ORGANISM synthetic construct  
REFERENCE  
1  
AUTHORS van Nest,G.  
TITLE Methods of suppressing hepatitis virus infection using  
immunomodulatory polynucleotide sequences  
JOURNAL Patent: WO 0168078-A 1 20-SEP-2001;  
Dynavax Technologies Corporation (US)  
FEATURES  
source Location/Qualifiers  
1..22  
/organism="synthetic construct"  
/mol\_type="unassigned DNA"  
/db\_xref="taxon:32630"

ORIGIN  
Query Match 100.0%; Score 22; DB 6; Length 22;  
Best Local Similarity 100.0%; Pred. No. 0.46; Mismatches 0; Indels 0; Gaps 0;  
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 TGACTGTGAACGTTGAGATGA 22  
|||||  
1 TGACTGTGAACGTTGAGATGA 22

Db 1 TGACTGTGAACGTTGAGATGA 22

RESULT 21  
LOCUS AX252291 22 bp DNA linear PAT 05-OCT-2001  
DEFINITION Sequence 1 from Patent WO0168117.  
ACCESSION AX252291  
VERSION AX252291.1 GI:15985632  
KEYWORDS  
SOURCE . synthetic construct  
ORGANISM synthetic construct  
REFERENCE  
1  
AUTHORS van Nest,G.  
TITLE Methods of reducing papillomavirus infection using immunomodulatory  
polynucleotide sequences  
JOURNAL Patent: WO 0168117-A 1 20-SEP-2001;  
Dynavax Technologies Corporation (US)  
FEATURES  
source Location/Qualifiers  
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/organism="synthetic construct"  
/mol\_type="unassigned DNA"  
/db\_xref="taxon:32630"  
/note="Polynucleotide containing CG"

ORIGIN  
Query Match 100.0%; Score 22; DB 6; Length 22;  
Best Local Similarity 100.0%; Pred. No. 0.46; Mismatches 0; Indels 0; Gaps 0;  
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 TGACTGTGAACGTTGAGATGA 22  
|||||  
1 TGACTGTGAACGTTGAGATGA 22

Db 1 TGACTGTGAACGTTGAGATGA 22

RESULT 22  
LOCUS AX252509 22 bp DNA linear PAT 05-OCT-2001  
DEFINITION Sequence 1 from Patent WO0168103.  
ACCESSION AX252509  
VERSION AX252509.1 GI:15985780  
KEYWORDS  
SOURCE . synthetic construct  
ORGANISM synthetic construct  
REFERENCE  
1  
AUTHORS van Nest,G.  
TITLE Methods of ameliorating symptoms of herpes infection using  
immunomodulatory polynucleotide sequences  
JOURNAL Patent: WO 0168103-A 1 20-SEP-2001;  
Dynavax Technologies Corporation (US)  
FEATURES  
source Location/Qualifiers  
1..22

ORIGIN

/organism="synthetic construct"  
/mol\_type="unassigned DNA"  
/db\_xref="taxon:32630"  
/note="Polynucleotide containing CG"

Query Match 100.0%; Score 22; DB 6; Length 22;  
Best Local Similarity 100.0%; Pred. No. 0.46;  
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 TGAAGTGAACGTTGAGATGA 22  
1 TGAAGTGAACGTTGAGATGA 22

Db 1 TGAAGTGAACGTTGAGATGA 22

RESULT 23  
AX252520  
LOCUS AX252520 22 bp DNA linear PAT 05-OCT-2001  
DEFINITION Sequence 1 from Patent WO0168144.  
ACCESSION AX252520  
VERSION AX252520.1 GI:15985791  
KEYWORDS  
SOURCE synthetic construct  
ORGANISM synthetic construct  
REFERENCE 1  
AUTHORS van Nest, G. and Tuck, S.  
TITLE Biodegradable immunomodulatory formulations and methods for use thereof  
JOURNAL Patent: WO 0168144-A 1 20-SEP-2001;  
Dynavax Technologies Corporation (US)  
FEATURES  
source Location/Qualifiers  
1..22  
/organism="synthetic construct"  
/mol\_type="unassigned DNA"  
/db\_xref="taxon:32630"  
/note="Polynucleotide containing CG"

ORIGIN

Query Match 100.0%; Score 22; DB 6; Length 22;  
Best Local Similarity 100.0%; Pred. No. 0.46;  
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 TGAAGTGAACGTTGAGATGA 22  
1 TGAAGTGAACGTTGAGATGA 22

Db 1 TGAAGTGAACGTTGAGATGA 22

RESULT 24  
AX252934  
LOCUS AX252934 22 bp DNA linear PAT 05-OCT-2001  
DEFINITION Sequence 1 from Patent WO0168143.  
ACCESSION AX252934  
VERSION AX252934.1 GI:15986201  
KEYWORDS  
SOURCE synthetic construct  
ORGANISM synthetic construct  
REFERENCE 1  
AUTHORS van Nest, G. and Tuck, S.  
TITLE Immunomodulatory formulations and methods for use thereof  
JOURNAL Patent: WO 0168143-A 1 20-SEP-2001;  
Dynavax Technologies Corporation (US)  
FEATURES  
source Location/Qualifiers  
1..22  
/organism="synthetic construct"  
/mol\_type="unassigned DNA"  
/db\_xref="taxon:32630"  
/note="Polynucleotide containing CG"

ORIGIN

Query Match 100.0%; Score 22; DB 6; Length 22;  
Best Local Similarity 100.0%; Pred. No. 0.46;

Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 TGAAGTGAACGTTGAGATGA 22  
1 TGAAGTGAACGTTGAGATGA 22

Db 1 TGAAGTGAACGTTGAGATGA 22

RESULT 25  
AX253113  
LOCUS AX253113 22 bp DNA linear PAT 05-OCT-2001  
DEFINITION Sequence 1 from Patent WO0168116.  
ACCESSION AX253113  
VERSION AX253113.1 GI:15986281  
KEYWORDS  
SOURCE synthetic construct  
ORGANISM synthetic construct  
REFERENCE 1  
AUTHORS van Nest, G.  
TITLE Methods of preventing and treating respiratory viral infection using immunomodulatory polynucleotide sequences  
JOURNAL Patent: WO 0168116-A 1 20-SEP-2001;  
Dynavax Technologies Corporation (US)  
FEATURES  
source Location/Qualifiers  
1..22  
/organism="synthetic construct"  
/mol\_type="unassigned DNA"  
/db\_xref="taxon:32630"  
/note="Polynucleotide containing CG"

ORIGIN

Query Match 100.0%; Score 22; DB 6; Length 22;  
Best Local Similarity 100.0%; Pred. No. 0.46;  
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 TGAAGTGAACGTTGAGATGA 22  
1 TGAAGTGAACGTTGAGATGA 22

Db 1 TGAAGTGAACGTTGAGATGA 22

RESULT 26  
AX253123  
LOCUS AX253123 22 bp DNA linear PAT 05-OCT-2001  
DEFINITION Sequence 1 from Patent WO0168077.  
ACCESSION AX253123  
VERSION AX253123.1 GI:15986291  
KEYWORDS  
SOURCE synthetic construct  
ORGANISM synthetic construct  
REFERENCE 1  
AUTHORS van Nest, G.  
TITLE Methods of preventing and treating viral infections using immunomodulatory polynucleotide sequences  
JOURNAL Patent: WO 0168077-A 1 20-SEP-2001;  
Dynavax Technologies Corporation (US)  
FEATURES  
source Location/Qualifiers  
1..22  
/organism="synthetic construct"  
/mol\_type="unassigned DNA"  
/db\_xref="taxon:32630"  
/note="Polynucleotide containing CG"

ORIGIN

Query Match 100.0%; Score 22; DB 6; Length 22;  
Best Local Similarity 100.0%; Pred. No. 0.46;  
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 TGAAGTGAACGTTGAGATGA 22  
1 TGAAGTGAACGTTGAGATGA 22

Db 1 TGAAGTGAACGTTGAGATGA 22

RESULT 27  
LOCUS AX468499 22 bp DNA linear PAT 16-JUL-2002  
DEFINITION Sequence 19 from Patent WO0262309.  
ACCESSION AX468499  
VERSION AX468499.1 GI:21901329  
KEYWORDS  
SOURCE  
ORGANISM  
REFERENCE  
1  
AUTHORS O'Hagan,D., Otten,G., Donnelly,J.J., Polo,J.M., Barnett,S.,  
TITLE Singh,M., Ulmer,U. and Dubensky,T.W.  
JOURNAL Microparticles for delivery of the heterologous nucleic acids  
PATENT: WO 0262309-A 19 04-APR-2002;  
CHIRON CORPORATION (US)  
FEATURES  
source 1..22  
/organism="synthetic construct"  
/mol\_type="unassigned DNA"  
/db\_xref="taxon:32630"  
/note="Artificial sequence is synthesized"

ORIGIN  
Query Match 100.0%; Score 22; DB 6; Length 22;  
Best Local Similarity 100.0%; Pred.No. 0.46;  
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 TGACTGTGAACGTTGCAGATGA 22  
1 TGAAGTGTGAACGTTGCAGATGA 22

Db 1 TGACTGTGAACGTTGCAGATGA 22

RESULT 28  
LOCUS AX592312 22 bp DNA linear PAT 27-JAN-2003  
DEFINITION Sequence 2 from Patent WO02052002.  
ACCESSION AX592312  
VERSION AX592312.1 GI:27950414  
KEYWORDS  
SOURCE  
ORGANISM  
REFERENCE  
1  
AUTHORS Fearon,K.L. and Dina,D.  
TITLE Immunomodulatory polynucleotides and methods of using the same  
JOURNAL Patent: WO 02052002-A 2 04-JUL-2002;  
Dynavax Technologies Corporation (US)  
FEATURES  
source 1..22  
/organism="synthetic construct"  
/mol\_type="unassigned DNA"  
/db\_xref="taxon:32630"  
/note="Polynucleotide containing CG"

ORIGIN  
Query Match 100.0%; Score 22; DB 6; Length 22;  
Best Local Similarity 100.0%; Pred.No. 0.46;  
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 TGACTGTGAACGTTGCAGATGA 22  
1 TGAAGTGTGAACGTTGCAGATGA 22

Db 1 TGACTGTGAACGTTGCAGATGA 22

RESULT 29  
LOCUS AX592350 22 bp DNA linear PAT 27-JAN-2003  
DEFINITION Sequence 40 from Patent WO02052002.  
ACCESSION AX592350  
VERSION AX592350.1 GI:27950452  
KEYWORDS  
SOURCE  
ORGANISM  
REFERENCE  
1  
AUTHORS  
TITLE  
JOURNAL  
PATENT: WO 0300032-A 1 03-JAN-2003;  
Yissum Research Development Company of the Hebrew Univ of Jerusalem

ORGANISM  
REFERENCE  
1  
AUTHORS Fearon,K.L. and Dina,D.  
JOURNAL Immunomodulatory polynucleotides and methods of using the same  
PATENT: WO 02052002-A 40 04-JUL-2002;  
Dynavax Technologies Corporation (US)  
FEATURES  
source 1..22  
/organism="synthetic construct"  
/mol\_type="unassigned DNA"  
/db\_xref="taxon:32630"  
/note="Polynucleotide containing CG"

ORIGIN  
Query Match 100.0%; Score 22; DB 6; Length 22;  
Best Local Similarity 100.0%; Pred.No. 0.46;  
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 TGACTGTGAACGTTGCAGATGA 22  
1 TGAAGTGTGAACGTTGCAGATGA 22

Db 1 TGACTGTGAACGTTGCAGATGA 22

RESULT 30  
LOCUS AX592369 22 bp DNA linear PAT 27-JAN-2003  
DEFINITION Sequence 59 from Patent WO02052002.  
ACCESSION AX592369  
VERSION AX592369.1 GI:27950471  
KEYWORDS  
SOURCE  
ORGANISM  
REFERENCE  
1  
AUTHORS Fearon,K.L. and Dina,D.  
TITLE Immunomodulatory polynucleotides and methods of using the same  
JOURNAL Patent: WO 02052002-A 59 04-JUL-2002;  
Dynavax Technologies Corporation (US)  
FEATURES  
source 1..22  
/organism="synthetic construct"  
/mol\_type="unassigned DNA"  
/db\_xref="taxon:32630"  
/note="Polynucleotide containing CG"

ORIGIN  
Query Match 100.0%; Score 22; DB 6; Length 22;  
Best Local Similarity 100.0%; Pred.No. 0.46;  
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 TGACTGTGAACGTTGCAGATGA 22  
1 TGAAGTGTGAACGTTGCAGATGA 22

Db 1 TGACTGTGAACGTTGCAGATGA 22

RESULT 31  
LOCUS AX720306 22 bp DNA linear PAT 15-APR-2003  
DEFINITION Sequence 1 from Patent WO0300032.  
ACCESSION AX720306  
VERSION AX720306.1 GI:29892140  
KEYWORDS  
SOURCE  
ORGANISM  
REFERENCE  
1  
AUTHORS Barenholz,Y., Kedar,E., Louria-Hayon,Y., Joseph,A., Raz,E. and  
TITLE Takabayashi,K.  
JOURNAL Method for preparation of vesicles loaded with immunostimulatory  
oligonucleotides  
PATENT: WO 0300032-A 1 03-JAN-2003;  
Yissum Research Development Company of the Hebrew Univ of Jerusalem

(IL) ; The Regents of the University of California (US)

FEATURES  
source  
1. .22  
/organism="synthetic construct"  
/mol\_type="unassigned DNA"  
/db\_xref="taxon:32630"

ORIGIN  
Query Match 100.0%; Score 22; DB 6; Length 22;  
Best Local Similarity 100.0%; Pred. No. 0.46;  
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY  
1 TGACTGTGAACGTTGAGATGA 22  
|||||  
1 TGACTGTGAACGTTGAGATGA 22

Db  
1 TGACTGTGAACGTTGAGATGA 22

RESULT 32  
BD009235 22 bp DNA linear PAT 31-JAN-2002  
LOCUS BD009235  
DEFINITION Immunostimulatory polynucleotide/immunomodulatory molecule  
CONTIGUATES.  
ACCESSION BD009235.1 GI:18637608  
KEYWORDS JP 2001503254-A/34.  
SOURCE synthetic construct  
ORGANISM synthetic construct  
REFERENCE 1 (bases 1 to 22)  
Carson,D.A., Raz,E. and Roman,M.  
AUTHORS Immunostimulatory polynucleotide/immunomodulatory molecule  
TITLE Patent: JP 2001503254-A 34 13-MAR-2001;  
JOURNAL THE REGENTS OF THE UNIVERSITY OF CALIFORNIA  
COMMENT OS Artificial Sequence  
PN JP 2001503254-A/34  
PD 13-MAR-2001  
PF 09-OCT-1997 JP 1998518649  
PR 11-OCT-1996 US 60/028118  
PI DENNIS A CARSON, EYAL RAZ, MARK ROMAN  
PC A61K39/00,A61K39/385,A61K39/39  
CC  
FH Key Location/Qualifiers  
FT source 1. .22  
FT Location/Qualifiers  
1. .22  
location/Qualifiers  
/organism="Artificial Sequence".  
/organism="synthetic construct"  
/mol\_type="genomic DNA"  
/db\_xref="taxon:32630"

ORIGIN  
Query Match 100.0%; Score 22; DB 6; Length 22;  
Best Local Similarity 100.0%; Pred. No. 0.46;  
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY  
1 TGACTGTGAACGTTGAGATGA 22  
|||||  
1 TGACTGTGAACGTTGAGATGA 22

Db  
1 TGACTGTGAACGTTGAGATGA 22

RESULT 33  
AX250707 22 bp DNA linear PAT 05-OCT-2001  
LOCUS AX250707  
DEFINITION Sequence 7 from Patent WO0166078.  
ACCESSION AX250707.1 GI:15984445  
KEYWORDS  
SOURCE synthetic construct  
ORGANISM synthetic construct  
REFERENCE 1  
AUTHORS van Nest,G.  
TITLE Methods of suppressing hepatitis virus infection using

Immunomodulatory polynucleotide sequences  
Patent: WO 0168078-A 7 20-SEP-2001;  
Dyanavax Technologies Corporation (US)

FEATURES  
source  
1. .22  
/organism="synthetic construct"  
/mol\_type="unassigned DNA"  
/db\_xref="taxon:32630"  
/note="B is 5-bromocytosine"

ORIGIN  
Query Match 96.4%; Score 21.2; DB 6; Length 22;  
Best Local Similarity 95.5%; Pred. No. 1.3;  
Matches 21; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

QY  
1 TGACTGTGAACGTTGAGATGA 22  
|||||  
1 TGACTGTGAABGTTGAGATGA 22

Db  
1 TGACTGTGAABGTTGAGATGA 22

RESULT 34  
BD233630 22 bp DNA linear PAT 17-JUL-2003  
LOCUS BD233630  
DEFINITION Immunostimulatory oligonucleotides, compositions thereof and  
methods of use thereof.  
ACCESSION BD233630.1 GI:33043400  
KEYWORDS JP 2002517156-A/15.  
SOURCE unidentified  
ORGANISM unidentified  
REFERENCE 1 (bases 1 to 22)  
Schwartz,D., Roman,M., Dina,D. and Raz,E.  
AUTHORS Immunostimulatory oligonucleotides, compositions thereof and  
TITLE methods of use thereof  
JOURNAL Patent: JP 2002517156-A 15 11-JUN-2002;  
COMMENT OS Unidentified  
PN JP 2002517156-A/15  
PD 11-JUN-2002  
PF 05-JUN-1998 JP 1999502884  
PR 06-JUN-1997 US 60/048793  
PI DAVID SCHWARTZ, MARK ROMAN, DINO DINA, EYAL RAZ  
PC  
C12N15/09,A61K31/7088,A61K31/7115,A61P37/02,A61P43/00,C12Q1/68, PC  
C12N15/00  
CC Strandedness: Single;  
CC Topology: Linear;  
CC 5-bromocytosine  
FH Key Location/Qualifiers  
FT modified base 11  
FT Location/Qualifiers  
1. .22  
location/Qualifiers  
/organism="unidentified"  
/mol\_type="genomic DNA"  
/db\_xref="taxon:32644"

ORIGIN  
Query Match 95.5%; Score 21; DB 6; Length 22;  
Best Local Similarity 95.5%; Pred. No. 1.7;  
Matches 21; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

QY  
1 TGACTGTGAACGTTGAGATGA 22  
|||||  
1 TGACTGTGAANGTTGAGATGA 22

Db  
1 TGACTGTGAANGTTGAGATGA 22

RESULT 35  
AR352586 22 bp DNA linear PAT 17-AUG-2003  
LOCUS AR352586  
DEFINITION Sequence 15 from patent US 6589940.  
ACCESSION AR352586  
VERSION AR352586.1 GI:33757837

KEYWORDS  
SOURCE Unknown.  
ORGANISM Unknown.  
REFERENCE 1 (bases 1 to 22)  
AUTHORS Raz,E., Roman,M. and Dina,D.  
TITLE Immunostimulatory oligonucleotides, compositions thereof and methods of use thereof  
JOURNAL Patent: US 6589940-A 15 08-JUL-2003;  
FEATURES Location/Qualifiers  
source 1..22  
/organism="unknown"  
/mol\_type="genomic DNA"

ORIGIN  
Query Match 95.5%; Score 21; DB 6; Length 22;  
Best Local Similarity 95.5%; Pred. No. 1.7;  
Matches 21; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

QY 1 TGACTGTGAACGTTGAGATGA 22  
1 TGACTGTGAANGTTGAGATGA 22

Db 1 TGACTGTGAACGTTGAGATGA 22  
1 TGACTGTGAANGTTGAGATGA 22

RESULT 36  
AX083681 22 bp DNA PAT 28-FEB-2001  
LOCUS  
DEFINITION Sequence 7 from Patent WO0112223.  
ACCESSION AX083681  
VERSION AX083681.1 GI:13185413  
KEYWORDS  
SOURCE synthetic construct  
ORGANISM synthetic construct  
REFERENCE 1  
AUTHORS van Nest,G.  
TITLE Methods of modulating an immune response using immunostimulatory s  
JOURNAL sequences and compositions for use therein  
DynaVax Patent: WO 0112223-A 7 22-FEB-2001;  
DynaVax Technologies Corporation (US)  
FEATURES Location/Qualifiers  
source 1..22  
/organism="synthetic construct"  
/mol\_type="unassigned DNA"  
/db\_xref="taxon:32630"  
11  
/note="5-bromocytosine"  
/mod\_base=OTHER

ORIGIN  
Query Match 95.5%; Score 21; DB 6; Length 22;  
Best Local Similarity 95.5%; Pred. No. 1.7;  
Matches 21; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

QY 1 TGACTGTGAACGTTGAGATGA 22  
1 TGACTGTGAANGTTGAGATGA 22

Db 1 TGACTGTGAACGTTGAGATGA 22  
1 TGACTGTGAANGTTGAGATGA 22

RESULT 37  
AX148642 22 bp DNA PAT 08-JUN-2001  
LOCUS  
DEFINITION Sequence 7 from Patent WO015591.  
ACCESSION AX148642  
VERSION AX148642.1 GI:14347260  
KEYWORDS  
SOURCE synthetic construct  
ORGANISM synthetic construct  
REFERENCE 1  
AUTHORS Tuck,S. and van Nest,G.  
TITLE Immunomodulatory compositions containing an immunostimulatory  
sequence linked to antigen and methods of use thereof

JOURNAL Patent: WO 0135991-A 7 25-MAY-2001;  
DynaVax Technologies Corporation (US)  
FEATURES Location/Qualifiers  
source 1..22  
/organism="synthetic construct"  
/mol\_type="unassigned DNA"  
/db\_xref="taxon:32630"  
/note="synthetic construct"  
11  
/note="5-bromocytosine"  
/mod\_base=OTHER

ORIGIN  
Query Match 95.5%; Score 21; DB 6; Length 22;  
Best Local Similarity 95.5%; Pred. No. 1.7;  
Matches 21; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

QY 1 TGACTGTGAACGTTGAGATGA 22  
1 TGACTGTGAANGTTGAGATGA 22

Db 1 TGACTGTGAACGTTGAGATGA 22  
1 TGACTGTGAANGTTGAGATGA 22

RESULT 38  
AX252297 22 bp DNA PAT 05-OCT-2001  
LOCUS  
DEFINITION Sequence 7 from Patent WO0168117.  
ACCESSION AX252297  
VERSION AX252297.1 GI:15985638  
KEYWORDS  
SOURCE synthetic construct  
ORGANISM synthetic construct  
REFERENCE 1  
AUTHORS van Nest,G.  
TITLE Methods of reducing papillomavirus infection using immunomodulatory  
JOURNAL polynucleotide sequences  
DynaVax Patent: WO 0168117-A 7 20-SEP-2001;  
DynaVax Technologies Corporation (US)  
FEATURES Location/Qualifiers  
source 1..22  
/organism="synthetic construct"  
/mol\_type="unassigned DNA"  
/db\_xref="taxon:32630"  
/note="Polynucleotide containing (5-bromocytosine)G"  
11  
misc\_feature  
/note="n = 5-bromocytosine"

ORIGIN  
Query Match 95.5%; Score 21; DB 6; Length 22;  
Best Local Similarity 95.5%; Pred. No. 1.7;  
Matches 21; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

QY 1 TGACTGTGAACGTTGAGATGA 22  
1 TGACTGTGAANGTTGAGATGA 22

Db 1 TGACTGTGAACGTTGAGATGA 22  
1 TGACTGTGAANGTTGAGATGA 22

RESULT 39  
AX252515 22 bp DNA PAT 05-OCT-2001  
LOCUS  
DEFINITION Sequence 7 from Patent WO0168103.  
ACCESSION AX252515  
VERSION AX252515.1 GI:15985786  
KEYWORDS  
SOURCE synthetic construct  
ORGANISM synthetic construct  
REFERENCE 1  
AUTHORS van Nest,G.  
TITLE Methods of ameliorating symptoms of herpes infection using  
JOURNAL immunomodulatory polynucleotide sequences  
DynaVax Patent: WO 0168103-A 7 20-SEP-2001;  
DynaVax Technologies Corporation (US)

FEATURES Location/Qualifiers  
source 1..22

/organism="synthetic construct"  
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/note="Polynucleotide containing (5-bromocytosine)G"

misc\_feature 11  
/note="n = 5-bromocytosine"

ORIGIN

Query Match 95.5%; Score 21; DB 6; Length 22;  
Best Local Similarity 95.5%; Pred. No. 1.7;  
Matches 21; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

QY 1 TGAAGTGAACGTTGAGATGA 22  
|||||  
Db 1 TGAAGTGAACGTTGAGATGA 22

RESULT 40

AX252526

LOCUS AX252526 22 bp DNA linear PAT 05-OCT-2001

DEFINITION Sequence 7 from Patent WO0168144.

ACCESSION AX252526

VERSION AX252526.1 GI:15985797

KEYWORDS

SOURCE synthetic construct  
ORGANISM synthetic construct  
artificial sequences.

REFERENCE 1

AUTHORS van Nest, G. and Tuck, S.

TITLE Biodegradable immunomodulatory formulations and methods for use

JOURNAL thereof

Patent: WO 0168144-A 7 20-SEP-2001;  
Dynavax Technologies Corporation (US)

FEATURES

source

1..22

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/note="Polynucleotide containing (5-bromocytosine) G"

misc\_feature 11

/note="n = 5-bromocytosine"

ORIGIN

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Best Local Similarity 95.5%; Pred. No. 1.7;  
Matches 21; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

QY 1 TGAAGTGAACGTTGAGATGA 22  
|||||  
Db 1 TGAAGTGAACGTTGAGATGA 22

Search completed: October 30, 2004, 17:55:36  
Job time : 1428 secs

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GenCore version 5.1.6  
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OM nucleic - nucleic search, using sw model

Run on: October 30, 2004, 10:18:53 ; Search time 222 Seconds  
(without alignments)  
520.213 Million cell updates/sec

Title: US-09-802-376-1

Perfect score: 22  
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Scoring table: IDENTITY NUC  
Gapop 10.0, Gapext 1.0

Searched: 4134886 seqs, 2624710521 residues

Total number of hits satisfying chosen parameters: 8269772

Minimum DB seq length: 0

Maximum DB seq length: 200000000

Post-processing: Minimum Match 0%

Maximum Match 100%  
Listing first 45 summaries

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1: geneseqn1980s:\*  
2: geneseqn1990s:\*  
3: geneseqn2000s:\*  
4: geneseqn2001as:\*  
5: geneseqn2001bs:\*  
6: geneseqn2002as:\*  
7: geneseqn2002bs:\*  
8: geneseqn2003as:\*  
9: geneseqn2003bs:\*  
10: geneseqn2003cs:\*  
11: geneseqn2003ds:\*  
12: geneseqn2004s:\*

Pred. No. is the number of results predicted by chance to have a  
score greater than or equal to the score of the result being printed,  
and is derived by analysis of the total score distribution.

## SUMMARIES

Result No.	Score	Query Match	Length	DB ID	Description
1	22	100.0	22	2	AAV32079
2	22	100.0	22	2	AAV80097
3	22	100.0	22	2	AAV80103
4	22	100.0	22	2	AAV80102
5	22	100.0	22	2	AAV36624
6	22	100.0	22	3	AAV14467
7	22	100.0	22	3	AAV38072
8	22	100.0	22	3	AAV38071
9	22	100.0	22	3	AAV38065
10	22	100.0	22	3	AAV90458
11	22	100.0	22	3	AAV96253
12	22	100.0	22	3	AAV55876
13	22	100.0	22	3	AAV64051
14	22	100.0	22	4	AAH20403
15	22	100.0	22	4	AAH43338
16	22	100.0	22	4	AAH73439
17	22	100.0	22	4	AAH75992
18	22	100.0	22	4	AAH77060
19	22	100.0	22	4	AAH79800
20	22	100.0	22	4	AAH44109
21	22	100.0	22	4	AAH82107

22	22	100.0	22	4	AAV92377	CG motif
23	22	100.0	22	4	AAH42533	Phospho
24	22	100.0	22	5	AAH41573	Immunost
25	22	100.0	22	5	AAH41573	Immunost
26	22	100.0	22	6	AAH78627	ISS enhan
27	22	100.0	22	6	AAH15592	Immunost
28	22	100.0	22	6	AAH03833	Immunost
29	22	100.0	22	6	AAH03844	Immunost
30	22	100.0	22	6	AAH16337	ISS poly
31	22	100.0	22	6	AAH24885	Immunost
32	22	100.0	22	6	AAH21877	Immunost
33	22	100.0	22	6	AAH75259	ISS immu
34	22	100.0	22	6	AAH75153	ISS immu
35	22	100.0	22	6	AAH75206	ISS immu
36	22	100.0	22	6	AAH73190	Nucleotid
37	22	100.0	22	6	AAH16348	ISS poly
38	22	100.0	22	6	AAH44504	Cpg motif
39	22	100.0	22	6	AAH03856	Immunost
40	22	100.0	22	8	AAH57964	Immunost
41	22	100.0	22	8	AAH77582	Nucleotid
42	22	100.0	22	9	AAH88931	Chimeric
43	22	100.0	22	9	AAH88799	Chimeric
44	22	100.0	22	9	AAH88821	Chimeric
45	22	100.0	22	9	AAH88876	Chimeric

## ALIGNMENTS

RESULT 1	
AAV32079	standard; DNA; 22 BP.
ID	AAV32079
AC	AAV32079;
DT	09-SEP-1998 (first entry)
DE	Nucleotide sequence of DY1018.
KW	DY1018; beta-gal; ISS-PN/IMM; antigen; immune response; antibody;
KW	immunisation; anaphylaxis; Ige; retinopathies; ss.
OS	Synthetic.
FT	Key
FT	modified_base
FT	location/Qualifiers
FT	1..22
FT	/tag= "a
FT	/note= "phosphothioate backbone"
PN	WO9816247-A1.
PD	23-APR-1998.
PF	09-OCT-1997; 97WO-US019004.
PR	11-OCT-1996; 96US-0028118P.
PA	(REBC ) UNIV CALIFORNIA.
PI	Carson DA, Raz E, Roman M;
DR	WPI; 1998-261028/23.
PT	New immunomodulatory compositions - comprising an antigen conjugated to a
PT	polynucleotide that contains an immunostimulatory sequence.
PS	Example 1; Page 36; 69pp; English.
CC	This is the nucleotide sequence of DY1018, which is conjugated to beta-
CC	gal to form ISS-PN/IMM, comprising an immunomodulatory molecule (IMM),
CC	which comprises an antigen conjugated to a polynucleotide (PN) that
CC	contains at least one immunostimulatory nucleotide sequence (ISS). The
CC	conjugate synergistically boost the magnitude of the host immune response

CC against an antigen to a level greater than the host immune response to  
CC either the IMM, antigen or ISS-PN alone. These responses to ISS-PN/IMM  
CC conjugates are particularly acute during the important early phase of the  
CC host immune response to an antigen. The ISS-PN/IMM conjugates boost both  
CC humoral (antibody) and cellular (Th1 type) immune responses of the host.  
CC Thus, use of the method to boost the immune responsiveness of a host to  
CC subsequent challenge by a sensitising antigen without immunisation avoids  
CC the risk of Th2-mediated, immunisation-induced anaphylaxis by suppressing  
CC IgE production in response to the antigen challenge. The conjugates can  
CC also be used to combat pathogenic infection and to stimulate therapeutic  
CC angiogenesis to treat conditions in which localised blood flow plays a  
CC significant etiological role, e.g. retinopathies

CC  
CC  
SQ Sequence 22 BP; 6 A; 3 C; 7 G; 6 T; 0 U; 0 Other;

Query Match 100.0%; Score 22; DB 2; Length 22;  
Best Local Similarity 100.0%; Pred. No. 0.21;  
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 TGAAGTGAACGTTGAGATGA 22  
Db 1 TGAAGTGAACGTTGAGATGA 22

RESULT 2  
AAV80097 standard; DNA; 22 BP.  
XX  
XX AAV80097;  
XX  
XX 12-MAR-1999 (first entry)  
XX  
XX Immunomodulatory oligo comprising an ISS sequence.  
XX  
XX  
XX Immunomodulatory; immunostimulatory; octanucleotide; immune regulation;  
XX ISS: cancer; allergy; asthma; hepatitis B infection; papillomavirus;  
XX human immunodeficiency virus; influenza; herpes; M. tuberculosis; ss;  
XX B. pertussis; malaria; plasmodia; leishmania; Trypanosoma; Schistosoma.  
XX  
XX Synthetic.  
XX  
XX WO985495-A2.  
XX  
XX 10-DEC-1998.  
XX  
XX 05-JUN-1998; 98WO-US011578.  
XX  
XX 06-JUN-1997; 97US-0048793P.  
XX  
XX (DYNA-) DYNAVAX TECHNOLOGIES CORP.  
XX  
XX Schwartz D, Roman M, Dina D;  
XX  
XX WPI, 1999-059898/05.  
XX  
XX Immunostimulatory oligonucleotides regulate the immune system - and  
XX contain an immune-stimulating octanucleotide sequence; for treating  
XX cancer, allergic and infectious diseases.  
XX  
XX Claim 5; Page 29; 63pp; English.

CC The invention relates to immunomodulatory oligonucleotides that comprise  
CC at least 1 immunostimulatory octanucleotide sequence (ISS) where the ISS  
CC sequences are selected from the group consisting of AACGTTCC, AACGTTCC,  
CC GACGTTCC, and GACGTTCC. The immunomodulatory sequences are used to treat  
CC patients needing immune regulation, such as those suffering from cancer,  
CC an allergic disease and asthma. They are also used to prevent infectious  
CC diseases such as influenza, herpes, hepatitis B, human immunodeficiency  
CC and papillomavirus, Hemophilus influenza, Mycobacterium tuberculosis and  
CC Bordetella pertussis, malarial plasmodia, leishmania, Trypanosoma and  
CC Schistosoma. The immunomodulatory sequences are used to screen for human  
CC immunostimulatory activity by incubating macrophage cells and the  
CC oligonucleotide; and determining the relative amount of Th1-biased

CC cytokines in the supernatant. Sequences AAV80096 to AAV80103 represent  
CC specific claimed examples of such immunomodulatory oligonucleotides

CC  
SQ Sequence 22 BP; 6 A; 3 C; 7 G; 6 T; 0 U; 0 Other;

Query Match 100.0%; Score 22; DB 2; Length 22;  
Best Local Similarity 100.0%; Pred. No. 0.21;  
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 TGAAGTGAACGTTGAGATGA 22  
Db 1 TGAAGTGAACGTTGAGATGA 22

RESULT 3  
AAV80103 standard; DNA; 22 BP.  
XX  
XX AAV80103;  
XX  
XX 12-MAR-1999 (first entry)  
XX  
XX Immunomodulatory oligo comprising an ISS sequence.  
XX  
XX  
XX Immunomodulatory; immunostimulatory; octanucleotide; immune regulation;  
XX ISS: cancer; allergy; asthma; hepatitis B infection; papillomavirus;  
XX human immunodeficiency virus; influenza; herpes; M. tuberculosis; ss;  
XX B. pertussis; malaria; plasmodia; leishmania; Trypanosoma; Schistosoma.  
XX  
XX Synthetic.  
XX  
XX  
XX Key Location/Qualifiers  
XX modified\_base 11  
XX /\*tag= a  
XX /note= "5'-Dromocytosine"  
XX  
XX WO985495-A2.  
XX  
XX 10-DEC-1998.  
XX  
XX 05-JUN-1998; 98WO-US011578.  
XX  
XX 06-JUN-1997; 97US-0048793P.  
XX  
XX (DYNA-) DYNAVAX TECHNOLOGIES CORP.  
XX  
XX Schwartz D, Roman M, Dina D;  
XX  
XX WPI, 1999-059898/05.  
XX  
XX Immunostimulatory oligonucleotides regulate the immune system - and  
XX contain an immune-stimulating octanucleotide sequence; for treating  
XX cancer, allergic and infectious diseases.  
XX  
XX Claim 24; Page 30; 63pp; English.

CC The invention relates to immunomodulatory oligonucleotides that comprise  
CC at least 1 immunostimulatory octanucleotide sequence (ISS) where the ISS  
CC sequences are selected from the group consisting of AACGTTCC, AACGTTCC,  
CC GACGTTCC, and GACGTTCC. The immunomodulatory sequences are used to treat  
CC patients needing immune regulation, such as those suffering from cancer,  
CC an allergic disease and asthma. They are also used to prevent infectious  
CC diseases such as influenza, herpes, hepatitis B, human immunodeficiency  
CC and papillomavirus, Hemophilus influenza, Mycobacterium tuberculosis and  
CC Bordetella pertussis, malarial plasmodia, leishmania, Trypanosoma and  
CC Schistosoma. The immunomodulatory sequences are used to screen for human  
CC immunostimulatory activity by incubating macrophage cells and the  
CC oligonucleotide; and determining the relative amount of Th1-biased  
CC cytokines in the supernatant. Sequences AAV80096 to AAV80103 represent  
CC specific claimed examples of such immunomodulatory oligonucleotides

XX  
SQ Sequence 22 BP; 6 A; 3 C; 7 G; 6 T; 0 U; 0 Other;

Query Match 100.0%; Score 22; DB 2; Length 22;  
Best Local Similarity 100.0%; Pred. No. 0.21;  
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 TGACTGTGAACGTTGCAGATGA 22  
DB 1 TGACTGTGAACGTTGCAGATGA 22

## RESULT 4

AAV80102  
ID AAV80102 standard; DNA; 22 BP.

AC AAV80102;

DT 12-MAR-1999 (first entry)

DE Immunomodulatory oligo comprising an ISS sequence.

KW Immunomodulatory; immunostimulatory; octanucleotide; immune regulation;

KW ISS: cancer; allergy; asthma; hepatitis B infection; papillomavirus;

KW human immunodeficiency virus; influenza; herpes; M. tuberculosis; ss;

KW B. pertussis; malaria; plasmodia; Leishmania; Trypanosoma; Schistosoma.

OS Synthetic.

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DB 1 TGACTGTGAACGTTGCAGATGA 22

RESULT 5  
AAK36624  
ID AAK36624 standard; DNA; 22 BP.

AC AAK36624;

DT 09-JUL-1999 (first entry)

DE ISS-ODN DY1018 nucleotide sequence.

KW Antigen-stimulated inflammation; immunostimulatory oligonucleotide;

KW granulocyte-mediated tissue inflammation; Th2 type immune response;

KW immune responsiveness modulation; idiopathic hypereosinophilic syndrome;

KW cutaneous basophil hypersensitivity; ISS-ODN; asthma; nasal polyps;

KW allergic rhinitis; atopic dermatitis; allergic conjunctivitis;

KW eosinophilic fasciitis; therapy; ss.

OS Synthetic.

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DB 1 TGACTGTGAACGTTGCAGATGA 22

RESULT 6  
AAAI4467  
ID AAI4467 standard; DNA; 22 BP.

AC AAI4467;

DT 09-JUL-1999 (first entry)

DE ISS-ODN DY1018 nucleotide sequence.

KW Antigen-stimulated inflammation; immunostimulatory oligonucleotide;

KW granulocyte-mediated tissue inflammation; Th2 type immune response;

KW immune responsiveness modulation; idiopathic hypereosinophilic syndrome;

KW cutaneous basophil hypersensitivity; ISS-ODN; asthma; nasal polyps;

KW allergic rhinitis; atopic dermatitis; allergic conjunctivitis;

KW eosinophilic fasciitis; therapy; ss.

OS Synthetic.

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AC	AAA14467,	
XX		
DT	21-AUG-2000	(first entry)
XX		
DE	Immunostimulatory oligonucleotide (ISS-ODN) DY1018.	
XX		
KM	Immunostimulatory oligonucleotide; adjuvant; mucosal immunity;	
KW	secretory immunoglobulin A production; sIgA; TnI phenotype; ds.	
XX		
OS	Synthetic.	
XX		
PN	WO200020039-A1.	
XX		
PD	13-APR-2000.	
XX		
PF	15-SEP-1999;	99WO-US021203.
XX		
PR	05-OCT-1998;	98US-00167039.
XX		
PA	(REGC ) UNIV CALIFORNIA.	
XX		
PI	Raz E, Horner AA, Carson DA;	
XX		
DR	WPI, 2000-303647/26.	
XX		
PT	Immunostimulatory oligonucleotide adjuvant induces mucosal immunity to an	
PT	antigen in a mammalian host through production of secretory	
PT	immunoglobulin A.	
XX		
PS	Claim 8; Page 21; 64pp; English.	
XX		
CC	The invention relates to a method of inducing mucosal immunity to an	
CC	antigen in a mammalian host, including the the production of secretory	
CC	immunoglobulin A (sIgA). Immune protection in the mucosa (the principal	
CC	site of entry of most foreign antigens) is mediated by mucosa-associated	
CC	lymphoid tissue, epithelial and distinct B-cell, T-cell and accessory the	
CC	cell sub-populations. The primary immune response which characterises the	
CC	induction of mucosal immunity to an antigen is sIgA production by	
CC	activated B-cells. The method comprises introducing an immunostimulatory	
CC	oligonucleotide (ISS-ODN) and the antigen into host mucosa, where the ISS	
CC	-ODN includes a core nucleotide sequence. The core nucleotide sequence is	
CC	5'-Purine-Purine-C-G-Pyrimidine-Pyrimidine-3', specific examples of which	
CC	are AACGTT, ACCGTC and GACGTT (SEQ ID NOS 1-3). A specific example of an	
CC	ISS-ODN is DY1018 (AAA14467). The ISS-ODN is used as an adjuvant with an	
CC	antigen for stimulating mucosal immunity. The level of sIgA production	
CC	induced in the host is at least 3 times the magnitude of sIgA production	
CC	achievable in response to introduction of antigen alone into the mucosal	
CC	tissue and is equivalent or greater than the magnitude of sIgA production	
CC	achievable in response to introduction of the antigen and cholera toxin	
CC	adjuvant into the mucosal tissue. The host immune response is stimulated	
CC	to antigen specific IGA production, biased towards the TnI phenotype	
CC	while antigen-induced IGB production is avoided. The adjuvant has little	
CC	or no known toxicity in mammals and its efficacy is comparable to that of	
CC	cholera toxin which is used as a mucosal adjuvant. The present sequence	
CC	represents the immunostimulatory oligonucleotide DY1018	
XX		
SQ	Sequence 22 BP; 6 A; 3 C; 7 G; 6 T; 0 U; 0 Other;	
Query Match	100.0%;	Score 22; DB 3; Length 22;
Best Local Similarity	100.0%;	Pred. No. 0.21;
Matches 22; Conservative	0;	Mismatches 0; Indels 0; Gaps 0
Oy	1 TGACTGTGAACGTTGCAGATGA 22	
Db	1 TGACTGTGAACGTTGCAGATGA 22	
RESULT 7		
ID	AAA38072	
XX	AAA38072 standard; DNA; 22 BP.	
XX	AAA38072;	
XX		

DT	24-AUG-2000	(first entry)
XX	Immunostimulatory sequence (ISS) #7.	
DE	Immunostimulatory sequence; ISS; immunomodulator; glycoprotein 120;	
XX	gp120; human immunodeficiency virus; HIV; immune response; infection;	
KW	development; ss.	
KM		
XX		
OS	Synthetic.	
XX		
FH	Key	
FT	modified_base	
FT	11	
FT	/tag= a	
FT	/mod_base= OTHER	
FT	/note= "5-Bromocytosine"	
FT	modified_base	
FT	15	
FT	/tag= b	
FT	/mod_base= OTHER	
FT	/note= "5-Bromocytosine"	
XX		
PN	WO200021556-A1.	
XX		
PD	20-APR-2000.	
XX		
PF	08-OCT-1999; 99WO-US023677.	
XX		
PR	09-OCT-1998; 98US-0103733P.	
PR	07-OCT-1999; 99US-00415186.	
XX		
PA	(DYNA-) DYNAVAX TECHNOLOGIES CORP.	
XX		
PI	Tighe H, Raz E, Schwartz D, Takabayashi K;	
PI	WPI, 2000-317846/27.	
DR		
XX		
PT	Anti-HIV composition comprises immunostimulatory polynucleotides and HIV	
PT	glycoprotein gp120 useful for modulating, stimulating an immune response	
PT	against HIV in an HIV infected individual.	
XX		
PS	Disclosure; Page 17; 65pp; English.	
XX		
CC	The present invention relates to an immunostimulatory composition	
CC	comprising a human immunodeficiency virus (HIV) antigen, and an	
CC	immunomodulatory polynucleotide comprising an immunostimulatory sequence	
CC	(ISS). This sequence represents an ISS that can be used in the	
CC	composition. An immunostimulatory composition which comprises a gp120	
CC	conjugated to an immunomodulatory polynucleotide, or is proximately	
CC	associated to it and not conjugated, is used for modulating or	
CC	stimulating a specific immune response against gp120 in an individual by	
CC	producing anti-gp120 antibodies or gp120 specific cytotoxic T cells. It	
CC	is also used for suppressing or delaying development of HIV infection in	
CC	an individual infected with HIV or an individual at risk of infection	
CC	with HIV, respectively. It is also used for treating an individual	
CC	infected with HIV in need of immune modulation	
XX		
SQ	Sequence 22 BP; 6 A; 3 C; 7 G; 6 T; 0 U; 0 Other;	
XX		
Query Match	100.0%; Score 22; DB 3; Length 22;	
Best Local Similarity	100.0%; Pred. NO. 0.21;	
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0		
QY	1 TGAAGTGAACGTTGAGATGA 22	
DB	1 TGACTGTGACGTTGAGATGA 22	
RESULT 8		
AAA38071		
ID	AAA38071 standard; DNA; 22 BP.	
XX		
AC	AAA38071;	
XX		
DT	24-AUG-2000 (first entry)	



```
XX 09-FEB-2000; 2000WO-US003331.
PF
XX
XX 26-FEB-1999; 99US-0121858P.
PR
XX 29-JUL-1999; 99US-0146391P.
PR
XX 28-OCT-1999; 99US-0161997P.
XX
XX (CHIR ) CHIRON CORP.
PA
XX
XX O'hagan D, Oct GS, Donnelly J, Kazzaz J, Ugozoli M, Singh M,
PI Barackman J,
XX
XX WPI; 2000-587123/55.
DR
XX
XX Microemulsion having an adsorbent surface comprising a microdroplet
PT emulsion consisting of a metabolizable oil and an emulsifying agent which
PT is a detergent, useful as a vaccine to treat bacterial, viral, and
PT parasitic infection.
XX
XX
XX Claim 17; Page 40; 95pp; English.
PS
XX
XX The invention relates to a microdroplet emulsion (microemulsion) with an
CC adsorbent surface, and which comprises a metabolizable oil and an
CC emulsifying agent (a detergent). It also relates to a composition
CC comprising the microemulsion and a microparticle with an adsorbent
CC surface, where the microparticle comprises a polymer selected from a
CC poly(alpha-hydroxy acid), a polyhydroxy butyric acid, a polycaprolactone,
CC a polyorthoester, a polyanhydride, and a polycyanocrylate, and a second
CC detergent. The surface of the microparticles efficiently adsorb
CC biologically active macromolecules such as DNA, polypeptides, antigens,
CC hormones, pharmaceuticals, enzymes, mediators of transcription or
CC translation, metabolic intermediates and adjuvants. Additionally, a
CC second biologically active molecule may be encapsulated within the
CC microparticle. The microemulsion can be used in methods of immunising a
CC host animal, particularly a human, against a viral, bacterial or
CC parasitic infection, and in methods of increasing a Th1 immune response.
CC The microemulsions (having the appropriate antigens adsorbed) may be
CC particularly used as vaccines for hepatitis C virus (HCV), hepatitis B
CC virus (HBV), herpes simplex virus (HSV), human immunodeficiency virus
CC (HIV), cytomegalovirus (CMV), influenza virus, and rabies virus; the
CC bacteria which cause cholera, diphtheria, tetanus and pertussis;
CC Helicobacter pylori and Haemophilus influenzae; and malaria-causing
CC parasites. Sequences AA50447-AA50467 represent Th1 lymphocyte stimulating
CC oligonucleotides containing at least one Cpg motif which are claimed for
CC use as adjuvants in the compositions of the invention
XX
XX
SQ Sequence 22 BP; 6 A; 3 C; 7 G; 6 T; 0 U; 0 Other;
Query Match 100.0%; Score 22; DB 3; Length 22;
Best Local Similarity 100.0%; Pred. No. 0.21;
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
QY 1 TGACTGTGAACGTTGAGATGA 22
| | | | | | | | | | | | | | | | | |
DB 1 TGACTGTGAACGTTGAGATGA 22
| | | | | | | | | | | | | | | | | |
RESULT 11
AAA96253
ID AAA96253 standard; DNA; 22 BP.
XX
XX AAA96253;
AC
XX
XX 08-FEB-2001 (first entry)
DT
XX
XX Sequence of a stabilised oligonucleotide with antitumour activity.
DE
XX Antitumour; immunostimulatory oligonucleotide; tumour; anaplasia;
KW glioblastoma; medullablastoma; neuroblastoma; carcinoma; ss.
XX
XX Synthetic.
OS
XX
XX WO200056342-A2.
PN
```

```
XX 28-SEP-2000.
PD
XX
XX 17-MAR-2000; 2000WO-FR000676.
PF
XX
XX 19-MAR-1999; 99FR-00003433.
PR
XX
XX (ASSI-) ASSISTANCE PUBLIQUE HOPITAUX PARIS.
PA (INRM ) INST NAT SANTE & RECH MEDICALE.
XX
XX Carpentier A;
PI
XX
XX WPI; 2000-602192/57.
DR
XX
XX Use of stabilised oligonucleotides as antitumor agents, particularly
PT against nervous system tumors, have optimal activity and are not toxic.
XX
XX
XX Example 2; Page 16; 57pp; French.
PS
XX
XX The present sequence represents a stabilised oligonucleotide which has
CC antitumour activity. The oligonucleotide comprises an octamer motif of
CC the type 5'-purine-purine-CG-pyrimidine-pyrimidine-X-X-3', where the pair
CC X-X is AT, AA, CT or TT. The oligonucleotides are immunostimulatory, and
CC are not toxic. They may be adapted for use in animals or humans. The
CC stabilised oligonucleotides are used for treating tumours, of any type
CC and any degree of anaplasia, particularly human tumours in the peripheral
CC or central nervous systems, specifically glioblastomas, medullablastomas,
CC neuroblastomas, melanomas or carcinomas
XX
XX
SQ Sequence 22 BP; 6 A; 3 C; 7 G; 6 T; 0 U; 0 Other;
Query Match 100.0%; Score 22; DB 3; Length 22;
Best Local Similarity 100.0%; Pred. No. 0.21;
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
QY 1 TGACTGTGAACGTTGAGATGA 22
| | | | | | | | | | | | | | | | | |
DB 1 TGACTGTGAACGTTGAGATGA 22
| | | | | | | | | | | | | | | | | |
RESULT 12
AA255876
ID AA255876 standard; DNA; 22 BP.
XX
XX AA255876;
AC
XX
XX 10-APR-2000 (first entry)
DT
XX
XX Immunomodulatory oligonucleotide SEQ ID NO: 1.
DE
XX
XX Immunomodulation; immunostimulatory sequence; adjuvant;
KW Th1 immune response; cytotoxic T-cell; cytokine; cancer; allergy; asthma;
KW immunoreception; ss.
XX
XX Mus musculus.
OS
XX
XX Synthetic.
XX
XX Key Location/Qualifiers
FH modified_base 1..22 a
FT /tag= a
FT /note= "Phosphorochioate linkages"
FT misc_feature 9..16
FT /tag= b
FT /note= "Immunostimulatory sequence (ISS)"
XX
XX
XX WO9962923-A2.
PN
XX
XX 09-DEC-1999.
PD
XX
XX 04-JUN-1999; 99WO-US012538.
PF
XX
XX 05-JUN-1998; 98US-0088310P.
PR 01-JUN-1999; 99US-00324191.
PN
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XX (DYNA-) DYNAXX TECHNOLOGIES CORP.  
 PA Schwartz D;  
 PI WPI; 2000-105687/09.  
 DR  
 XX  
 XX Novel immunomodulatory oligonucleotide used to induce a Th1-type immune  
 PT response, e.g. to tumor antigens.  
 PT  
 PS Example 1; Page 35; 54pp; English.  
 XX  
 CC Sequences AA255876-255877 and AA255880-255886 represent immunomodulatory  
 CC oligonucleotides comprising an immunostimulatory sequence (ISS, e.g.,  
 CC AACGTC, AACGTT, AGCGTC, AGCGTT, GACGTC, GACGTT, GCGGTT, AACGTTCC  
 CC and GACGTTCC). The invention relates to oligonucleotides comprising one  
 CC or more ISSs, where the ISS comprises at least one modified cytosine with  
 CC an electron-withdrawing moiety at position C-5 or C-6 of the base.  
 CC Sequences AA255877 and AA255880-255886 contain ISSs comprising at least  
 CC one bromocytosine, whereas sequence AA255876 contains an unmodified ISS.  
 CC The immunomodulatory oligonucleotides have an adjuvant-like effect; when  
 CC formulated with an antigen, the oligonucleotides stimulate production of  
 CC Th1-type cytokines, and induce a Th1-type immune response (activation of  
 CC cytotoxic T cells), while simultaneously downregulating the Th2-type  
 CC response. The Th1 response is particularly effective for control of  
 CC viruses and intracellular parasites. The immunomodulatory  
 CC oligonucleotides are used, particularly when formulated with an antigen  
 CC or a facilitator, for modulating immune responses. Such compositions may  
 CC be used in tumour therapy, in treatment of allergy (including asthma),  
 CC for inducing a vigorous cellular response (against a virus, bacterium,  
 CC fungus or protozoan), and also in contraceptive vaccines based on sperm  
 CC antigens  
 CC  
 SQ Sequence 22 BP; 6 A; 3 C; 7 G; 6 T; 0 U; 0 Other;  
 QY  
 Query Match 100.0%; Score 22; DB 3; Length 22;  
 Best Local Similarity 100.0%; Pred. No. 0.21;  
 Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;  
 Db 1 TGACTGTGAACGTTGAGATGA 22  
 1 TGACTGTGAACGTTGAGATGA 22  
 RESULT 13  
 AAC64051  
 ID AAC64051 standard; DNA; 22 BP.  
 XX  
 AC AAC64051;  
 XX  
 DT 15-FEB-2001 (first entry)  
 DT  
 DE Immunostimulatory Cpg phosphorothioate oligodeoxynucleotide.  
 XX  
 XX Cpg oligodeoxynucleotide; phosphorothioate; immunostimulatory; ISS ODN;  
 KW enhanced antigen presentation; antigen-presenting cell; APC;  
 KW T-cell activation; tumour cell; tumour antigen; cancer immunotherapy;  
 KW vaccine; ss.  
 KW  
 OS Synthetic.  
 OS  
 PN WO200062787-A1.  
 PN  
 PD 26-OCT-2000.  
 PD  
 PF 11-APR-2000; 2000WO-US009664.  
 PF  
 PR 15-APR-1999; 99US-00292278.  
 PR  
 XX (REGC ) UNIV CALIFORNIA.  
 PA  
 PI Raz E, Martin-Orozco E;  
 XX

DR WPI; 2000-679548/66.  
 XX  
 XX Enhancing antigen-presentation capabilities of T-cells for cancer  
 PT immunotherapy, by contacting cells with an immunostimulatory  
 PT oligonucleotide.  
 PT  
 PS Example 1; Page 18; 42pp; English.  
 XX  
 CC The invention relates to a method of inducing activation of T-cells to  
 CC respond to an antigen, comprising contacting antigen-presenting cells  
 CC (APC) with an immunostimulatory oligodeoxynucleotide (ISS-ODN). The APCs  
 CC thus treated have enhanced antigen presenting capabilities compared to  
 CC antigen-activated APCs. APCs with enhanced antigen-presentation  
 CC capabilities then present the antigen to T-cells. The method is useful  
 CC for cancer immunotherapy. The ISS-ODN is used to enhance the tumour  
 CC antigen presenting capacity of tumour cells, thereby inducing T-cell  
 CC activation, and is therefore useful for treating tumours. Additionally,  
 CC tumour cells treated with an ISS-ODN ex vivo are useful as vaccines. ISS-  
 CC ODN treated APCs are induced to take up antigen through upregulation of  
 CC Fe-receptor expression, to present antigen through upregulation of major  
 CC histocompatibility complex (MHC) Class I and II expression and CD1d  
 CC expression, to produce co-stimulatory factors (B7 and CD40), to provide  
 CC cell-to-cell adhesion through upregulation of intercellular adhesion  
 CC molecule (ICAM) expression, and to increase Th1 stimulatory cytokine  
 CC production, all at levels greater than that achieved through contact of  
 CC APC with antigen alone. The present sequence represents a  
 CC phosphorothioate Cpg ISS-ODN used in the exemplifications of the  
 CC invention  
 CC  
 SQ Sequence 22 BP; 6 A; 3 C; 7 G; 6 T; 0 U; 0 Other;  
 QY  
 Query Match 100.0%; Score 22; DB 3; Length 22;  
 Best Local Similarity 100.0%; Pred. No. 0.21;  
 Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;  
 Db 1 TGACTGTGAACGTTGAGATGA 22  
 1 TGACTGTGAACGTTGAGATGA 22  
 RESULT 14  
 AAH20403  
 ID AAH20403 standard; DNA; 22 BP.  
 XX  
 AC AAH20403;  
 XX  
 DT 03-AUG-2001 (first entry)  
 DT  
 DE Cpg motif containing oligonucleotide SEQ ID #21.  
 XX  
 XX  
 KW Immune system stimulator; Cpg motif; Cpg receptor; Cpg-R; antibacterial;  
 KW immune response; vaccine adjuvant; tumour immunotherapy; allergy;  
 KW anti-inflammatory; cystic fibrosis; sepsis; heart disease; chlamydia;  
 KW inflammatory bowel disease; arthritis; multiple sclerosis; ss.  
 XX  
 OS Unidentified.  
 OS  
 FH Key Location/Qualifiers  
 FT modified\_base 1..22  
 FT /tag= a  
 FT /mod\_base= OTHER  
 FT /note= "Phosphorothioate internucleoside linkages"  
 PN WO200132877-A2.  
 PN  
 PD 10-MAY-2001.  
 PD  
 PF 01-NOV-2000; 2000WO-US041735.  
 PF  
 PR 02-NOV-1999; 99US-0163157P.  
 PR  
 PR 24-NOV-1999; 99US-0167389P.  
 XX  
 XX (CHIR ) CHIRON CORP.  
 PA

XX Mackichan ML;  
PI  
XX  
DR WPI; 2001-343486/36.  
XX  
PT Novel Cpg receptor and nucleic acid molecule encoding the receptor, for  
PT modulating immune response and for identifying compounds of therapeutic  
PT use which bind and/or modulate the activity of the receptor.  
XX  
PS Example 1; Page 14; 41pp; English.  
XX  
CC Unmethylated CG dinucleotide sequences are commonly found in bacterial  
CC DNA, and have been found to stimulate the innate immune system. Natural  
CC killer and T cells are activated by exposure to oligonucleotides  
CC containing Cpg motifs. Oligonucleotides containing Cpg motifs can be used  
CC as adjuvants in vaccines. The present invention relates to a Cpg  
CC receptor. The Cpg receptor contains a Toll homology domain (THD). The  
CC Toll receptor family are associated with responses to pathogens. Cpg  
CC oligonucleotides may act as stimulators of various immune responses. The  
CC Cpg receptor or cells expressing the receptor are useful for identifying  
CC a compound which binds to or modulates an activity of the Cpg receptor.  
CC The compounds are useful in e.g. vaccine adjuvants promoting cell-  
CC mediated immune responses, antibacterials, (e.g. protection from listeria  
CC infection), tumour immunotherapy, allergy treatment, (e.g. suppressing  
CC IgE in human PEMC, shifting from Th2 to Th1) and as anti-inflammatory  
CC agents (e.g. for use in cystic fibrosis, sepsis, heart disease,  
CC chlamydia, inflammatory bowel disease, arthritis and multiple sclerosis).  
CC The present sequence represents a Cpg motif containing oligonucleotide  
CC used in examples demonstrating that Cpg oligonucleotides can activate the  
CC MAPK pathways and NF-kappaB  
XX  
SQ Sequence 22 BP; 6 A; 3 C; 7 G; 6 T; 0 U; 0 Other;  
XX  
Query Match 100.0%; Score 22; DB 4; Length 22;  
Best Local Similarity 100.0%; Pred. No. 0.21;  
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;  
XX  
QY 1 TGACTGTGAACGTTGAGATGA 22  
1 TGACTGTGAACGTTGAGATGA 22  
Db  
XX  
RESULT 15  
AAH43338  
ID AAH43338 standard; DNA; 22 BP.  
XX  
AC AAH43338;  
XX  
DT 13-DEC-2001 (first entry)  
XX  
DE Immunomodulatory polynucleotide 1018.  
XX  
DE Immunomodulation; inflammation; gastrointestinal tract;  
XX immunoregulation; Crohn's disease; inflammatory bowel disease;  
XX ulcerative colitis; Crohn's disease; inflammatory bowel disease;  
XX diarrhoea; rectal bleeding; weight loss; colon; weight; lesion; ss.  
XX  
XX Synthetic.  
XX  
XX OS  
XX PN WO200162207-A2.  
XX  
PD 30-AUG-2001.  
XX  
PF 22-FEB-2001; 2001WO-US006034.  
XX  
PR 23-FEB-2000; 2000US-0184256P.  
XX  
PA (REGC ) UNIV CALIFORNIA.  
XX  
PI Raz E, Rachmiliwitz D;  
XX  
DR WPI; 2001-565393/63.  
XX  
PT Ameliorating gastrointestinal inflammation e.g. inflammatory bowel

PT disease involves administering an immunomodulatory nucleic acid.  
XX  
XX Claim 7; Page 28; 58pp; English.  
XX  
CC The sequences given in AAH43338-48 represent immunomodulatory  
CC polynucleotides which may be used to ameliorate inflammation of the  
CC gastrointestinal tract by administering a nucleic acid comprising one of  
CC these sequences. These polynucleotides all comprise an immunomodulatory  
CC nucleotide sequence of 5'-Cpg-3' (1). The nucleotides may be used for  
CC ameliorating or reducing gastrointestinal inflammation e.g. chronic or  
CC acute gastrointestinal inflammation, ulcerative colitis, Crohn's disease  
CC caused by inflammatory bowel disease; diarrhoea, rectal bleeding, weight  
CC loss; to reduce colon weight and colon lesions; to reduce a colonic  
CC inflammation. The immunomodulatory polynucleotides treat inflammatory  
CC bowel disease satisfactorily and effectively and have little or no  
CC toxicity even at a high dosage of 50000 micro-g. They also reduce the  
CC risk of colonic cancer by treating ulcerative colitis  
XX  
SQ Sequence 22 BP; 6 A; 3 C; 7 G; 6 T; 0 U; 0 Other;  
XX  
Query Match 100.0%; Score 22; DB 4; Length 22;  
Best Local Similarity 100.0%; Pred. No. 0.21;  
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;  
XX  
QY 1 TGACTGTGAACGTTGAGATGA 22  
1 TGACTGTGAACGTTGAGATGA 22  
Db  
XX  
RESULT 16  
AAH73439  
ID AAH73439 standard; DNA; 22 BP.  
XX  
AC AAH73439;  
XX  
DT 01-OCT-2001 (first entry)  
XX  
DE Immunomodulatory nucleic acid.  
XX  
XX G3PDH gene; immunomodulatory oligonucleotide; infection; mycobacterium;  
XX intracellular pathogen; anti-pathogenic; ss.  
XX  
XX OS  
XX XX Unidentified.  
XX  
XX PN WO200155341-A2.  
XX  
PD 02-AUG-2001.  
XX  
PF 30-JAN-2001; 2001WO-US003029.  
XX  
PR 31-JAN-2000; 2000US-0179353P.  
XX  
PA (REGC ) UNIV CALIFORNIA.  
XX  
PI Raz E, Kornbluth R, Catanzaro A, Hayashi T, Carson DA;  
XX  
XX WPI; 2001-483234/52.  
XX  
DR  
XX  
PT Treating infection of intracellular pathogen e.g., Mycobacterium, in a  
PT subject, involves administering immunomodulatory nucleic acid molecule to  
PT inhibit intracellular replication of intracellular pathogen.  
XX  
XX PS Example; Page 26; 54pp; English.  
XX  
CC The present invention describes a method of treating an infection caused  
CC by an intracellular pathogen, involving administering to the patient an  
CC immunomodulatory nucleic acid and an anti-pathogenic agent. This is  
CC particularly useful in the treatment of mycobacterial infections. The  
CC present sequence is an immunomodulatory nucleic acid described in the  
CC exemplification of the invention  
XX  
SQ Sequence 22 BP; 6 A; 3 C; 7 G; 6 T; 0 U; 0 Other;



Query Match 100.0%; Score 22; DB 4; Length 22;  
Best Local Similarity 100.0%; Pred. No. 0.21;  
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 TGACTGTGAACGTTGAGATGA 22  
DB 1 TGACTGTGAACGTTGAGATGA 22

## RESULT 17

AAH75992  
ID AAH75992 standard; DNA; 22 BP.

AC AAH75992;

DT 15-NOV-2001 (first entry)

DE Immunomodulatory oligonucleotide #1.

XX Immunomodulatory; immunostimulatory; Th1-type immune response;

KW Th2-type immune response; interferon; idiopathic pulmonary fibrosis;

KM viral infection; phosphorothioate; ss.

OS Synthetic.

XX Key Location/Qualifiers

FT modified\_base 1..22

FT /tag= a

FT /mod\_base= OTHER

FT /note= "phosphorothioate oligonucleotide"

PN WO200168143-A2.

XX 20-SEP-2001.

XX 12-MAR-2001; 2001WO-US007843.

XX 10-MAR-2000; 2000US-018557P.

PR 09-MAR-2001; 2001US-00802376.

XX (DYNA-) DYNAVAX TECHNOLOGIES CORP.

PI Van Nest G; Tuck S;

XX WPI; 2001-582389/65.

DR Immunomodulatory polynucleotide/microcarrier complexes comprise an

PT immunostimulatory sequence containing polynucleotide linked to a

PT nonbiodegradable microcarrier.

XX Claim 11; Page 49; 61pp; English.

XX The present invention relates to immunomodulatory polynucleotide/

CC microcarrier complexes. The complexes comprise an immunostimulatory

CC sequence (ISS), e.g. the present sequence, linked to a nonbiodegradable

CC microcarrier provided that if the microcarrier is gold, latex or magnetic

CC then the linkage is not biotin/avidin. The complex is useful for

CC modulating an immune response (especially stimulating a Th1-type response

CC or suppressing a Th2-type response), increasing interferon-gamma

CC (especially in a patient suffering from idiopathic pulmonary fibrosis),

CC increasing interferon-alpha (especially in patients suffering from viral

CC infection) and reducing levels of IGE

XX Sequence 22 BP; 6 A; 3 C; 7 G; 6 T; 0 U; 0 Other;

SO Query Match 100.0%; Score 22; DB 4; Length 22;

Best Local Similarity 100.0%; Pred. No. 0.21;

Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 TGACTGTGAACGTTGAGATGA 22

DB 1 TGACTGTGAACGTTGAGATGA 22

RESULT 18  
AAE77040  
ID AAE77040 standard; DNA; 22 BP.

AC AAE77040;

DT 15-MAY-2001 (first entry)

DE Immunomodulatory DNA.

XX Modulate; immune; antigen; immunostimulatory; ds.

XX Synthetic.

OS WO200112223-A2.

XX 22-FEB-2001.

XX 18-AUG-2000; 2000WO-US022835.

XX 19-AUG-1999; 99US-0149768P.

XX (DYNA-) DYNAVAX TECHNOLOGIES CORP.

PI Van Nest G;

XX WPI; 2001-211136/21.

XX Modulating immune response to a second antigen in humans involves

PT administering an immunostimulatory polynucleotide comprising an

PT immunostimulatory sequence and a first antigen.

XX Claim 31; Page 15; 63pp; English.

XX The present invention relates to modulating an immune response to a

CC second antigen in an individual, involving administering to the

CC individual an immunomodulatory polynucleotide comprising an

CC immunostimulatory sequence (ISS) and a first antigen

XX Sequence 22 BP; 6 A; 3 C; 7 G; 6 T; 0 U; 0 Other;

SO Query Match 100.0%; Score 22; DB 4; Length 22;

Best Local Similarity 100.0%; Pred. No. 0.21;

Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 TGACTGTGAACGTTGAGATGA 22

DB 1 TGACTGTGAACGTTGAGATGA 22

RESULT 19  
AAF29800  
ID AAF29800 standard; DNA; 22 BP.

AC AAF29800;

DT 12-APR-2001 (first entry)

DE Cholera toxin immunostimulatory nucleotide sequence.

XX Immunostimulatory nucleotide sequence; immune response; cancer;

KW antibody production; IFNgamma release; CTL activity; Th1 response;

KM infection; allergy; ds.

XX Unidentified.

OS WO200102007-A1.

XX 11-JAN-2001.

XX 30-JUN-2000; 2000WO-US018229.

PR 02-JUL-1999; 99US-0034734J.  
XX  
PA (REGC ) UNIV CALIFORNIA.  
XX  
PI Raz E, Kobayashi H;  
XX  
DR WPI; 2001-138066/14.  
XX  
PT Enhancing immune response against pathogen or antigen associated with  
XX infectious diseases, an allergen or cancer, involves administering  
XX immunostimulatory nucleotide sequence prior to antigen exposure.  
XX  
PS Example 1; Page 14; 47pp; English.  
XX  
CC The present invention describes a method for enhancing an immune response  
CC to a substance, comprising administering an immunostimulatory nucleotide  
CC sequence to a subject prior to exposure to the substance. This can be  
CC used to enhance antibody production, IFNgamma release, CTL activity and  
CC Th1 related effects. The method can be used in the prevention and  
CC treatment of allergies, cancer and infections  
XX  
SQ Sequence 22 BP; 6 A; 3 C; 7 G; 6 T; 0 U; 0 Other;  
XX  
Query Match 100.0%; Score 22; DB 4; Length 22;  
Best Local Similarity 100.0%; Pred. No. 0.21;  
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;  
OY 1 TGACTGTGACGTTTCGAGATGA 22  
1 TGCCTGTGACGTTTCGAGATGA 22  
DB  
RESULT 20  
AAH44109  
ID AAH44109 standard; DNA; 22 BP.  
XX  
AC AAH44109;  
XX  
DT 12-SEP-2001 (first entry)  
XX  
DE 5' terminal NH2 group and a 3' terminal rhodamine moiety oligonucleotide.  
XX  
KW Peptide nucleic acid; intracellular protein delivery; cationic lipid;  
XX PNA; ss.  
XX  
OS Synthetic.  
XX  
FH Key Location/Qualifiers  
FT modified\_base 1  
FT /tag= a  
FT /mod\_base= OTHER  
FT /note= "T has been modified at the 5' terminal with an  
FT NH2 group"  
FT modified\_base 22  
FT /tag= b  
FT /mod\_base= OTHER  
FT /note= "A has been modified at the 3' terminal with  
FT rhodamine"  
PN WO200143778-A1.  
XX  
PD 21-JUN-2001.  
XX  
PF 15-DEC-2000; 2000WO-US033969.  
XX  
PR 17-DEC-1999; 99US-0172441P.  
XX  
PA (GENE-) GENE THERAPY SYSTEMS INC.  
XX  
PI Felgner PL, Zelpatli O;  
XX  
DR WPI; 2001-398080/42.  
XX

PT Composition useful for intracellular delivery of a protein, comprises a  
PT protein in operative association with a cationic intracellular delivery  
PT vehicle comprising a cationic lipid, which is adapted to fuse with a cell  
XX membrane.  
XX  
PS Example 3; Page 18; 33pp; English.  
XX  
CC The present invention describes a composition (I) for intracellular  
CC delivery of a protein, comprising a protein in operative association with  
CC a cationic intracellular delivery vehicle comprising a cationic lipid,  
CC where the intracellular delivery vehicle is adapted to fuse with a cell  
CC membrane, therefore effecting intracellular delivery of the associated  
CC protein. also described is a method for delivering a protein to a cell  
CC involving providing the protein associated with a cationic lipid in such  
CC a manner so as to form an intracellular delivery composition, and  
CC contacting the delivery composition with a cell membrane of a cell, such  
CC that the cationic lipid forms an association with a cell membrane and  
CC delivers the protein into the cell. (I) is useful in the preparation of a  
CC medicament for intracellular delivery of a therapeutic or prophylactic  
CC protein. (I) is useful for delivering antibodies to intracellular  
CC proteins to neutralise their activity, and to introduce therapeutically  
CC useful, proteins, peptides or small molecules. (I) is useful for the in  
CC vitro or in vivo delivery of antibodies or peptides which block the  
CC function of specific intracellular proteins and affect cellular  
CC metabolism, cell viability or virus replication. (I) is useful for  
CC delivering any protein of interest, including therapeutically useful  
CC proteins (e.g. tumour suppressor proteins, cystic fibrosis transmembrane  
CC regulator (CFTR), adenosine deaminase (ADA), hexosaminidase A, peptides,  
CC wild type protein counterparts of mutant proteins and cell surface  
CC receptors) such as those for cytokines (e.g., interleukins, interferon,  
CC colony stimulating factors) and peptide hormones. The present sequence  
CC represents a peptide nucleic acid (PNA) oligonucleotide which is used in  
CC an example from the present invention for intracellular delivery of  
CC proteins  
XX  
SQ Sequence 22 BP; 6 A; 3 C; 7 G; 6 T; 0 U; 0 Other;  
XX  
Query Match 100.0%; Score 22; DB 4; Length 22;  
Best Local Similarity 100.0%; Pred. No. 0.21;  
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;  
OY 1 TGACTGTGACGTTTCGAGATGA 22  
1 TGCCTGTGACGTTTCGAGATGA 22  
DB  
RESULT 21  
AAC82107  
ID AAC82107 standard; DNA; 22 BP.  
XX  
AC AAC82107;  
XX  
DT 07-MAR-2001 (first entry)  
XX  
DE Oligonucleotide ODNOCt DNA SEQ ID NO 2.  
XX  
KW Immunogenic; human immunodeficiency virus; immunostimulatory sequence;  
XX ISS; beta-chemokine; anti-HIV; AIDS; Th1 immune response; primer;  
XX HIV-specific cytotoxic T lymphocyte response; phosphorothioate; ss.  
XX  
OS Synthetic.  
XX  
PN WO200067787-A2.  
XX  
PD 16-NOV-2000.  
XX  
PF 05-MAY-2000; 2000WO-US012495.  
XX  
PR 06-MAY-1999; 99US-0132762P.  
XX  
PR 25-AUG-1999; 99US-0150676P.  
XX  
PA (IMMU-) IMMUNE RESPONSE CORP.  
XX

PI Moss RB;  
XX  
XX WPI; 2001-031804/04.  
XX  
XX Human immunodeficiency virus (HIV) compositions useful for immunizing and  
PT inhibiting AIDS in mammals, comprises HIV devoid of outer envelope  
PT protein and an immunostimulatory nucleic acid sequence.  
XX  
XX Example 1; Page 26; 64pp; English.  
XX  
XX This invention describes a novel immunogenic composition (I), comprising  
CC a whole-killed human immunodeficiency virus (HIV) devoid of outer  
CC envelope protein gp120, an isolated nucleic acid molecule containing an  
CC immunostimulatory sequence (ISS) and an adjuvant, which enhances beta-  
CC chemokine levels in a mammal. The products of the invention have anti-HIV  
CC activity. (I) is useful for immunizing and for inhibiting AIDS in a  
CC mammal. The mammal can be a primate such as a human, (HIV seronegative or  
CC seropositive humans) or a rodent, in particular the primate is a pregnant  
CC mother or an infant. (I) can induce potent Th1 immune responses against a  
CC broad spectrum of HIV epitopes and provides a strong HIV-specific  
CC cytotoxic T lymphocyte response  
XX  
XX  
SQ Sequence 22 BP; 6 A; 3 C; 7 G; 6 T; 0 U; 0 Other;  
Query Match 100.0%; Score 22; DB 4; Length 22;  
Best Local Similarity 100.0%; Pred. No. 0.21;  
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;  
QY 1 TGACTGTGAACGTTGAGATGA 22  
DB 1 TGACTGTGAACGTTGAGATGA 22  
AA92377  
ID AAA92377 standard; DNA; 22 BP.  
XX  
XX AAA92377;  
XX  
XX  
DT 12-JUN-2001 (first entry)  
XX  
XX CG motif and CFA containing oligonucleotide SEQ ID NO:19.  
XX  
XX CG motif; complete Freund's adjuvant; phosphorothioate; immunogenic;  
XX Neisseria antigen; Neisseria meningitidis; Neisseria gonorrhoeae;  
XX bactericidal; antibacterial; vaccine; immunostimulatory; infection;  
XX immune response; ss.  
XX  
XX Neisseria sp.  
XX  
XX  
FH Key Location/Qualifiers  
FT modified\_base 1..22  
FT /tag= a  
FT /note= "preferably contains at least one phosphorothioate  
FT bond"  
XX  
XX  
XX WO2000050075-A2.  
XX  
XX 31-AUG-2000.  
XX  
XX  
XX 09-FEB-2000; 2000WO-1B000176.  
XX  
XX  
XX 26-FEB-1999; 99US-0121792P.  
XX  
XX (CHIR-) CHIRON SPA.  
XX  
XX Grandi G, Rappuoli R, Giuliani MM, Pizza M;  
XX WPI; 2001-015529/02.  
XX  
XX  
XX Immunogenic composition useful for stimulating an immune response in a  
PT mammal against Neisseria infection, comprises Neisseria antigen and an  
PT adjuvant composition comprising an oligonucleotide with a CG motif.

XX  
XX Claim 19; Page 9; 39pp; English.  
XX  
XX The present invention describes an immunogenic composition (I) comprising  
CC a Neisseria antigen and an adjuvant composition comprising an  
CC oligonucleotide comprising at least 1 CG motif. Also described is an  
CC adjuvant composition (II) comprising an oligonucleotide which comprises  
CC at least 1 CG motif and a complete Freund's adjuvant (CFA), where the  
CC oligonucleotide preferably comprises at least one phosphorothioate bond.  
CC AAA92359 to AAA92385 represent specifically claimed oligonucleotides of  
CC the present invention. (I) is useful for stimulating an immune response  
CC in a mammal, preferably a human, against Neisseria infection, preferably  
CC Neisseria meningitidis infection and in the manufacture of a medicament  
CC for inducing a protective immune response in a mammal  
XX  
XX  
SQ Sequence 22 BP; 6 A; 3 C; 7 G; 6 T; 0 U; 0 Other;  
Query Match 100.0%; Score 22; DB 4; Length 22;  
Best Local Similarity 100.0%; Pred. No. 0.21;  
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;  
QY 1 TGACTGTGAACGTTGAGATGA 22  
DB 1 TGACTGTGAACGTTGAGATGA 22  
AA42533  
ID AA42533 standard; DNA; 22 BP.  
XX  
XX AA42533;  
XX  
XX  
DT 01-OCT-2001 (first entry)  
XX  
XX Phosphorothioate beta-gal/immunostimulatory oligonucleotide.  
XX  
XX Anaphylactic hypersensitivity; immunomodulatory nucleic acid; vaccine;  
XX anaphylaxis-associated symptom; IGE; histamine; phosphorothioate; ss.  
XX  
XX Synthetic.  
XX  
XX WO200145750-A1.  
XX  
XX  
XX 28-JUN-2001.  
XX  
XX 20-DEC-2000; 2000WO-US035064.  
XX  
XX 21-DEC-1999; 99US-0171830P.  
XX  
XX (REGC ) UNIV CALIFORNIA.  
XX  
XX  
XX Raz E, Horner AA;  
XX WPI; 2001-475812/51.  
XX  
XX  
XX Reducing risk of anaphylactic hypersensitivity response to an allergen in  
PT a subject, by administering an immunomodulating nucleic acid molecule  
PT comprising a specific sequence.  
XX  
XX  
XX Example 1; Page 22; 39pp; English.  
XX  
XX The specification describes a method for reducing a symptom associated  
CC with anaphylactic hypersensitivity or risk of anaphylactic response in a  
CC subject. The method comprises administering to an individual a nucleic  
CC acid molecule comprising an immunomodulatory nucleic acid molecule (INA)  
CC comprising the sequence 5'-C-G-3' to reduce anaphylaxis-associated  
CC symptom. The method is useful for reducing a symptom associated with  
CC anaphylactic hypersensitivity, including elevated IGE level, elevated  
CC histamine level, constriction of the airways and difficult breathing  
CC which can lead to anaphylactic reaction or anaphylactic shock, thereby  
CC reducing the risk of death. The present sequence represents a beta-  
CC gal/immunostimulatory sequence, which was used as a vaccine to protect  
CC against the development of anaphylactic hypersensitivity

XX Sequence 22 BP; 6 A; 3 C; 7 G; 6 T; 0 U; 0 Other;  
SQ Query Match 100.0%; Score 22; DB 4; Length 22;  
Best Local Similarity 100.0%; Pred. No. 0.21;  
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;  
QY 1 TGAAGTGAACGTTGAGATGA 22  
DB 1 TGAAGTGAACGTTGAGATGA 22  
RESULT 24  
AAH41573  
ID AAH41573 standard; DNA; 22 BP.  
XX  
XX AAH41573;  
AC  
XX 24-AUG-2001 (first entry)  
DT  
XX Immunostimulatory sequence (ISS) SEQ ID NO:1.  
DE  
XX Immunostimulatory sequence; ISS; immunomodulatory; immune response;  
KW antigen; antiallergic; modulation; Th1 lymphocyte stimulation; allergy;  
KW Th1-associated cytokine; Th2 lymphocyte suppression; cytokine; ss.  
XX  
XX Synthetic.  
XX  
XX MO200135991-A2.  
PN  
XX 25-MAY-2001.  
PD  
XX 15-NOV-2000; 2000MO-US031385.  
PF  
XX 15-NOV-1999; 99US-0165467P.  
PR 14-NOV-2000; 2000US-00713136.  
XX  
XX (DYNA-) DYNAVAX TECHNOLOGIES CORP.  
PA  
XX  
XX Tuck S, Van Nest G;  
PI  
XX WPI; 2001-329209/34.  
DR  
XX  
XX Populations of conjugate molecules comprising polynucleotide  
PT immunostimulatory sequences polynucleotides and antigens, useful for  
PT controlling immune responses.  
XX  
XX Example 1; Page 30; 97pp; English.  
PS  
XX  
XX The present invention describes immunomodulatory populations ((I) and  
CC ((II) of conjugate molecules (CWS) comprising immunostimulatory sequences  
CC (ISS) of polynucleotides and antigens. The extent of conjugation affects  
CC the immunological properties (e.g. the extent of antigen-specific  
CC antibody formation, including Th1-associated antibody formation) so the  
CC conjugates are used for altering the type and extent of immune response.  
CC (I) and (II) have immunomodulatory, immunosuppressive and antiallergic  
CC activities, and can be used in the modulation of immune responses via the  
CC stimulation of Th1 lymphocytes and Th1-associated cytokines, and  
CC suppression of Th2 lymphocytes and cytokines. The populations ((I) and  
CC ((II) of conjugate molecules may be used for modulating immune responses  
CC in individuals e.g. for the treatment of an allergic condition. (I) and  
CC ((II) may be useful to modulate immune responses and therefore prevent  
CC potentially harmful reactions to antigens. The present sequence  
CC represents an ISS polynucleotide which is used in the exemplification of  
CC the present invention  
XX  
SQ Sequence 22 BP; 6 A; 3 C; 7 G; 6 T; 0 U; 0 Other;  
XX  
XX Query Match 100.0%; Score 22; DB 5; Length 22;  
Best Local Similarity 100.0%; Pred. No. 0.21;  
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;  
QY 1 TGAAGTGAACGTTGAGATGA 22  
DB 1 TGAAGTGAACGTTGAGATGA 22

DB 1 TGAAGTGAACGTTGAGATGA 22  
RESULT 25  
AAI4664  
ID AAI4664 standard; DNA; 22 BP.  
XX  
XX AAI4664;  
AC  
XX 18-DEC-2001 (first entry)  
DT  
XX Immunostimulatory sequence, ISS #1.  
DE  
XX Immunostimulatory sequence; ISS; ds; antiviral; immunogen;  
KW respiratory syncytial virus; RSV; influenza virus; rhinovirus;  
KW adenovirus; measles virus; mumps virus; parainfluenza virus;  
KW rubella virus; poxvirus; parvovirus; hantavirus; varicella virus.  
XX  
XX Respiratory syncytial virus.  
OS  
XX Synthetic.  
XX  
XX Key Location/Qualifiers  
FH modified\_base 1.22  
FT /tag= a  
FT /label= OTHER  
FT /note= "Phosphorochioate Backbone"  
XX  
XX MO200168116-A2.  
PN  
XX 20-SEP-2001.  
PD  
XX 12-MAR-2001; 2001WO-US007839.  
PF  
XX 10-MAR-2000; 2000US-0188583P.  
PR 09-MAR-2001; 2001US-00802686.  
XX  
XX (DYNA-) DYNAVAX TECHNOLOGIES CORP.  
PA  
XX  
XX Van Nest G;  
PI  
XX WPI; 2001-607438/69.  
DR  
XX  
XX Suppressing a respiratory syncytial virus infection by administering an  
PT immunostimulatory sequence at the site of infection is useful to prevent  
PT and treat lower respiratory tract viral infections.  
XX  
XX Claim 5; Page 37; 40pp; English.  
PS  
XX  
XX The invention relates to suppressing a respiratory syncytial virus (RSV)  
CC infection in an exposed individual, comprising administering a  
CC polynucleotide comprising an immunostimulatory sequence (ISS) comprising  
CC the sequence 5'-C-G-3', where an RSV antigen is not administered. The  
CC invention is used to prevent and treat respiratory syncytial virus  
CC infection of the lower respiratory tract and other viruses including  
CC influenza virus, rhinovirus, adenovirus, measles virus, mumps virus,  
CC parainfluenza virus, rubella virus, poxvirus, parvovirus, hantavirus and  
CC varicella virus. A kit for carrying out the administration is also  
CC included. Unlike the prior art antiviral agent ribavirin, which is a  
CC potential teratogen, the invention provides a treatment which does not  
CC carry unacceptable side effects. Other prior art medicaments treat the  
CC symptoms only, whilst the invention treats the infection. The present  
CC sequence is an ISS of the invention  
XX  
SQ Sequence 22 BP; 6 A; 3 C; 7 G; 6 T; 0 U; 0 Other;  
XX  
XX Query Match 100.0%; Score 22; DB 5; Length 22;  
Best Local Similarity 100.0%; Pred. No. 0.21;  
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;  
QY 1 TGAAGTGAACGTTGAGATGA 22  
DB 1 TGAAGTGAACGTTGAGATGA 22

xx	DISCLOSURE: Page 15, 31pp; English.
xx	The present sequence represents an exemplary immunostimulatory sequence
xx	(ISS) which enhances HIV-specific Th1 cytokine and humoral responses, and
xx	also enhances both non-specific and HIV-specific beta-chemokine
xx	production. ISSs can be included in HIV immunogenic compositions of the
xx	invention. The specification describes a method for treating an HIV-
xx	infected individual, which comprises combining immunisation with an anti-
xx	retroviral compound, an HIV immunogenic composition with structured
xx	cycles of anti-retroviral treatment and withdrawal from treatment. The
xx	advantages of the method of the invention include a delay in the rebound
xx	to an unacceptably high viral load; a more rapid or sustained increase in
xx	HIV-specific CD4 T cell counts; a reduction or delay in the development
xx	of AIDS symptoms, including AIDS-related opportunistic infections; and a
xx	higher degree of patient compliance with treatment and fewer toxic side
xx	effects associated with long-term anti-retroviral drug treatment. The
xx	method is useful for treating an HIV-infected individual
xx	
SQ	Sequence 22 BP; 6 A; 3 C; 7 G; 6 T; 0 U; 0 Other;
OY	Query Match 100.0%; Score 22; DB 6; Length 22;
ID	Best Local Similarity 100.0%; Pred.No. 0.21;
XX	Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0
Dn	1 TGACGTGTAACGTTGCAGATGA 22 1 TGACTGTGTAACCTTGCAGATGA 22
RESULT 27	
AAS15592	
AA15592 standard; DNA; 22 BP.	
AAS15592;	
29-JAN-2002 (first entry)	

DE	Immunostimulatory oligonucleotide (ISS-ODN) #1.
KM	Immunostimulatory oligonucleotide, ISS-ODN; antiallergic; antibacterial;
KM	virucide; fungicide; vaccine; immunogen; plant allergen; ragweed;
KM	grass pollen; food; latex; cat dander; cockroach; house dust mite;
KM	pathogenic parasite; ss.
XX	
OS	Synthetic.
XX	
PN	WO200176642-A1.
PD	18-OCT-2001.
XX	
PF	06-APR-2001; 2001WO-US011290.
XX	
PR	07-APR-2000; 2000US-0195890P.
XX	
PA	(REGC ) UNIV CALIFORNIA.
XX	
PI	Raz E, Takabayashi K, Nguyen M;
XX	
DR	WPI; 2002-025886/03.
PT	New polynucleotide vaccine for eliciting immune response to an antigen
PT	derived from a pathogen, plant or food, comprises antigen-encoding
PT	nucleic acid sequence derived from non-host species of first phylum or
XX	kingdom.
XX	
PS	Example 4; Page 43; 64pp; English.
XX	
CC	The invention relates to a polynucleotide vaccine (I) comprising a
CC	nucleic acid sequence encoding an antigen derived from a non-host species
CC	of a first phylum or first kingdom, where the nucleic acid sequence
CC	encoding the antigen is modified by deletion of a native signal sequence,
CC	and/or an immunomodulatory nucleic acid sequence. (I) is useful for
CC	modulating an immune response to an antigen, especially a plant (ragweed
CC	or grass pollen), food, latex, cat dander, cockroach or house dust mite
CC	allergen. (I) is also useful for eliciting an immune response to an
CC	antigen derived from a pathogen, such as bacterium, virus or a parasite.
CC	The vaccine is co-administered with an immunostimulatory nucleotide
CC	sequence which comprises an unmethylated 5'-CG-3' nucleotide sequence.
CC	Antigens of pathogenic parasites include Plasmodium, Leishmania, fungal,
CC	yeast or other pathogens. The present sequence represents
CC	immunostimulatory oligonucleotide (ISS-ODN) #1 which is co-injected with
CC	(I) to amplify the immune response to the co-administered allergen
XX	
SO	Sequence 22 BP; 6 A; 3 C; 7 G; 6 T; 0 U; 0 Other;
Query Match	100.0%; Score 22; DB 6; Length 22;
Best Local Similarity	100.0%; Pred. No. 0.21;
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0	
CY	1 TGACTGTGAACGTCGAGATGA 22
DB	1 TGACTGTGAACGTCGAGATGA 22
RESULT 28	
ABA03833	
ID	ABA03833 standard; DNA; 22 BP.
XX	
AC	ABA03833;
XX	
DT	12-FEB-2002 (first entry)
DE	Immunostimulatory sequence (ISS) SEQ ID NO:1.
XX	
KM	Immunomodulatory polynucleotide/microcarrier complex; IMF/MC; Ige;
KM	immunomodulation; immunostimulation; phosphorothioate; immunomodulator;
KM	antiallergic; antibacterial; antiprotozoal; antiparasitic; hepatotropic;
KM	nephrotropic; interferon-alpha stimulator; interferon-gamma stimulator;
KM	immunoglobulin E stimulator; immune response; IPF; scleroderma; malaria;
KM	idiopathic pulmonary fibrosis; cutaneous radiation-induced fibrosis;

KW hepatic fibrosis; renal fibrosis; infectious disease; leishmaniasis;  
KW mycobacterial disease; toxoplasmosis; schistosomiasis; chlamorchiasis;  
KW allergy; allergy-induced asthma; prophylactic vaccine; cancer; ss.  
XX  
OS Synthetic.  
XX  
FH Key Location/Qualifiers  
FT modified\_base 1..22  
FT /\*tag= a  
FT /mod\_base= OTHER  
FT /note= "phosphorothioate linkages"  
XX  
PN WO200168144-A2.  
XX  
PD 20-SEP-2001.  
XX  
PF 12-MAR-2001; 2001WO-US007848.  
XX  
PR 10-MAR-2000; 2000US-0188303P.  
PR 09-MAR-2001; 2001US-00802359.  
XX  
PA (DYNA-) DYNAVAX TECHNOLOGIES CORP.  
XX  
PI Van Nest G, Truck S;  
XX  
DR WPI; 2002-049002/06.  
XX  
PT New immunomodulatory polynucleotide/microcarrier complex, useful for  
PT modulating the immune response of individuals, particularly humans, or  
PT for treating idiopathic pulmonary fibrosis, scleroderma, malaria or  
PT allergies.  
XX  
PS Claim 14; Page 49; 63bp; English.  
XX  
CC The present invention describes an immunomodulatory polynucleotide/  
CC microcarrier (IMP/MC) complex (I), which comprises a polynucleotide/  
CC having an immunostimulatory sequence (ISS) linked to a biodegradable  
CC microcarrier (MC). The ISS comprises the sequence: 5'-CG-3', where the MC  
CC is less than 10 micro m in size. (I) has immunomodulator, anti-allergic,  
CC antibacterial, antiparasitic, antiparasitic, hepatocytic and  
CC nephrotoxic activities. It can be used as an interferon (IFN)-alpha  
CC stimulator, IFN-gamma stimulator or an immunoglobulin E (IGE) stimulator.  
CC (I) can be used for modulating the immune response of individuals,  
CC particularly humans. The IMP/MC complex is particularly useful for  
CC treating idiopathic pulmonary fibrosis (IPF), scleroderma, cutaneous  
CC radiation-induced fibrosis, hepatic fibrosis including schistosomiasis-  
CC induced hepatic fibrosis, renal fibrosis, infectious diseases caused by  
CC cellular pathogen (e.g. a mycobacterial disease, malaria, leishmaniasis,  
CC toxoplasmosis, schistosomiasis or chlamorchiasis), or disorders  
CC associated with a Th2-type immune response (e.g. allergies or allergy-  
CC induced asthma). The IMP/MC may also be used in individuals receiving  
CC therapeutic or prophylactic vaccines, in individuals suffering from  
CC cancer, or in individuals at risk of exposure to an infectious agent. The  
CC present sequence represents a specifically claimed ISS which can be used  
CC in an IMP/MC complex of the present invention  
XX  
SQ Sequence 22 BP; 6 A; 3 C; 7 G; 6 T; 0 U; 0 Other;  
XX  
Query Match 100.0%; Score 22; DB 6; Length 22;  
Best Local Similarity 100.0%; Pred. No. 0.21; Mismatches 0;  
Matches 22; Conservative 0; Indels 0; Gaps 0;  
QY 1 TGAAGTGAACGTTGAGATGA 22  
DB 1 TGAAGTGAACGTTGAGATGA 22  
XX  
RESULT 29  
ABA03844 standard; DNA; 22 BP.  
XX  
AC ABA03844;  
XX

DT 12-FEB-2002 (first entry)  
XX  
DE Immunostimulatory sequence (ISS) SEQ ID NO:1.  
XX  
XX Immunostimulatory sequence; ISS; immunostimulation; viral infection;  
KW immunomodulation; virucide; gene therapy; viraemia; phosphorothioate; ss.  
XX  
OS Synthetic.  
XX  
FH Key Location/Qualifiers  
FT modified\_base 1..22  
FT /\*tag= a  
FT /mod\_base= OTHER  
FT /note= "phosphorothioate linkages"  
XX  
PN WO200168077-A2.  
XX  
PD 20-SEP-2001.  
XX  
PF 12-MAR-2001; 2001WO-US007840.  
XX  
PR 10-MAR-2000; 2000US-0188302P.  
PR 09-MAR-2001; 2001US-00802685.  
XX  
PA (DYNA-) DYNAVAX TECHNOLOGIES CORP.  
XX  
PI Van Nest G;  
XX  
DR WPI; 2002-048999/06.  
XX  
PT Reducing severity, recurrence or duration of symptom of virus infection,  
PT or reducing viraemia or blood levels of virus antigen, comprises  
PT administering a polynucleotide having an immunostimulatory sequence.  
XX  
PS Claim 4; Page 54; 65bp; English.  
XX  
CC The present invention describes a method for reducing severity of a  
CC symptom of virus infection in an individual infected with a virus. The  
CC method comprises administering a composition consisting of a  
CC polynucleotide having an immunostimulatory sequence (ISS). The ISS  
CC comprises the sequence 5'-C-G-pyrimidine,pyrimidine,C-G-3'. An antigen is  
CC administered in conjunction with the composition. ISS has virucide  
CC activity and can be used in gene therapy. The method using the ISS can be  
CC used for suppressing, ameliorating and/or preventing viral infections to  
CC an individual who may be at risk of being exposed to, exposed to or  
CC infected by a virus. It may also be used in reducing the recurrence or  
CC duration of a symptom of viral infection, delaying the development of a  
CC virus infection, and reducing viraemia or blood levels of virus antigens.  
CC The present sequence represents a specifically claimed ISS for use in the  
CC method of the invention  
XX  
SQ Sequence 22 BP; 6 A; 3 C; 7 G; 6 T; 0 U; 0 Other;  
XX  
Query Match 100.0%; Score 22; DB 6; Length 22;  
Best Local Similarity 100.0%; Pred. No. 0.21; Mismatches 0;  
Matches 22; Conservative 0; Indels 0; Gaps 0;  
QY 1 TGAAGTGAACGTTGAGATGA 22  
DB 1 TGAAGTGAACGTTGAGATGA 22  
XX  
RESULT 30  
AAS16337 standard; DNA; 22 BP.  
XX  
AC AAS16337;  
XX  
DT 14-FEB-2002 (first entry)  
XX  
DE ISS polynucleotide #1 useful for treating herpes virus infections.  
XX  
KW Herpes simplex virus; HSV infection; immunostimulatory sequence; ISS;

KW immune response; alphaherpesvirinae; herpes virus zoster virus; VZV;  
KW HSV-1; HSV-2; chicken pox; herpes labialis; cold sore; genital herpes;  
KW virucide; phosphorothioate; ss.  
XX  
OS Synthetic.  
XX  
FH Key Location/Qualifiers  
FT modified\_base 1..22  
FT /tag= a  
FT /mod\_base= OTHER  
FT /note= "Optionally phosphorothioate internucleotide  
FT linkages"  
XX  
XX WO200168103-A2.  
XX  
XX  
XX 20-SEP-2001.  
XX  
XX 12-MAR-2001; 2001WO-US007841.  
XX  
XX 10-MAR-2000; 2000US-0188556P.  
XX 09-MAR-2001; 2001US-00802518.  
XX  
XX (DYNA-) DYNAVAX TECHNOLOGIES CORP.  
XX  
XX Van Neet G;  
XX  
XX WPI; 2002-041171/05.  
XX  
XX Preventing, reducing the severity or reducing the recurrence of an  
XX infection or symptom of herpes simplex virus (HSV), e.g. HSV-2, comprises  
XX administering an immunostimulatory sequence to an individual.  
XX  
XX  
XX Claim 5; Page 41; 49pp; English.  
XX  
XX The present invention relates to novel methods of treating, preventing,  
XX or reducing the severity or recurrence of a symptom of herpes simplex  
XX virus (HSV) infection in an individual who has been exposed to or who is  
XX infected with HSV. The method comprises administering a polynucleotide  
XX having an immunostimulatory sequence (ISS; AAG16337-AAG16345) which  
XX induces an immune response. A composition containing ISS is administered  
XX without a HSV (alphaherpesvirinae) antigen. The composition can be  
XX included in a kit for ameliorating or preventing a symptom of HSV  
XX infection caused by herpes virus zoster virus (VZV), HSV-1 and  
XX particularly HSV-2. Such HSV infections include chicken pox, herpes  
XX labialis (cold sores) and genital herpes. The present sequence represents  
XX one of the ISS polynucleotides of the invention. Note: The present  
XX sequence is shown as single stranded in the specification, but the  
XX patentees state on page 20 that this sequence may be double stranded  
XX  
XX Sequence 22 BP; 6 A; 3 C; 7 G; 6 T; 0 U; 0 Other;  
SQ  
Query Match 100.0%; Score 22; DB 6; Length 22;  
Best Local Similarity 100.0%; Pred. No. 0.21;  
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;  
OY 1 TGAAGTGTGAACGTTGAGATGA 22  
Db 1 TGAAGTGTGAACGTTGAGATGA 22  
RESULT 31  
AAD24885  
ID AAD24885 standard; DNA; 22 BP.  
XX  
XX AAD24885;  
XX  
XX 12-MAR-2002 (first entry) 1.  
XX  
XX Immunostimulatory oligodeoxynucleotide (ISS-ODN) 1.  
XX  
XX Cell death; DNA damage; DNA-dependent protein kinase; DNA-PK; necrosis;  
KW immune response; apoptosis; Alzheimer's disease; Parkinson's disease;  
KW rheumatoid arthritis; inflammation; osteoporosis; myocardial infarction;

KW liver disease; reperfusion injury; carcinoma; multiple sclerosis; stroke;  
KW amyotrophic lateral sclerosis; Acquired Immune Deficiency Syndrome; AIDS;  
KW head injury damage; aplastic anaemia; tumour; organ transplantation;  
KW cerebral infarction; follicular lymphomas; systemic lupus erythematosus;  
KW viral infection; glomerulonephritis; apoptosis; autoimmune disorder;  
KW sepsis; immunostimulatory oligodeoxynucleotide; ISS-ODN; ss.  
XX  
XX Unidentified.  
XX  
XX WO200165910-A2.  
XX  
XX 15-NOV-2001.  
XX  
XX 04-MAY-2001; 2001WO-US014508.  
XX  
XX 05-MAY-2000; 2000US-0202274P.  
XX 17-JAN-2001; 2001US-0262321P.  
XX  
XX (REGC ) UNIV CALIFORNIA.  
XX  
XX PI Raz E, Lois AF, Takabayashi K;  
XX WPI; 2002-062244/08.  
XX  
XX DR WPI; 2002-062244/08.  
XX  
XX Modulating cell death or reducing DNA damage in eukaryotic cells, useful  
XX for reducing cell death in individual or organ, comprises contacting cell  
XX with agent modulating biological activity of DNA-dependent protein  
XX kinase.  
XX  
XX Example 1; Page 29; 57pp; English.  
XX  
XX The invention relates to a method for modulating cell death or reducing  
XX DNA damage in an eukaryotic cell by contacting the cell with an agent  
XX that modulates the biological activity of DNA-dependent protein kinase  
XX (DNA-PK). The invention also relates nucleic acids which modulate the  
XX immune response binding to Ku antigen, resulting in activation of DNA-PK.  
XX The method is useful for modulating cell death or reducing DNA damage in  
XX an eukaryotic cell, for treating any disorder resulting from a genotoxic  
XX insert to a cell e.g., necrosis, apoptosis. The method is also useful for  
XX treating cell death-related indications such as Alzheimer's disease,  
XX Parkinson's disease, rheumatoid arthritis, septic shock, sepsis, stroke,  
XX central nervous system inflammation, osteoporosis, degenerative liver  
XX disease, cerebellar degeneration, reperfusion injury, multiple sclerosis,  
XX amyotrophic lateral sclerosis, myocardial infarction, head injury damage,  
XX acquired immunodeficiency syndrome (AIDS), aplastic anaemia, cerebral  
XX infarction, bypass heart surgery, organ transplantation. The method is  
XX also useful for treating follicular lymphomas, carcinoma, autoimmune  
XX disorders (systemic lupus erythematosus), hormone dependent tumours,  
XX immune mediated glomerulonephritis; apoptosis and viral infections. The  
XX present sequence is immunostimulatory oligodeoxynucleotide (ISS-ODN) used  
XX for identifying ISS-binding protein, which is used in the exemplification  
XX of the invention  
XX  
XX Sequence 22 BP; 6 A; 3 C; 7 G; 6 T; 0 U; 0 Other;  
SQ  
Query Match 100.0%; Score 22; DB 6; Length 22;  
Best Local Similarity 100.0%; Pred. No. 0.21;  
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;  
OY 1 TGAAGTGTGAACGTTGAGATGA 22  
Db 1 TGAAGTGTGAACGTTGAGATGA 22  
RESULT 32  
AAD21877  
ID AAD21877 standard; DNA; 22 BP.  
XX  
XX AAD21877;  
XX  
XX 12-FEB-2002 (first entry)  
XX  
XX Immunostimulatory sequence oligonucleotide (ISS-ODN) #1.  
DE

XX Cytotoxic T lymphocyte; CTL; T cell; tumour load; cancer radiotherapy;  
 KW immunostimulatory sequence oligonucleotide; ISS-ODN; chemotherapy;  
 KW immunosuppression; transplantation; autoimmune disease; infection;  
 KW acquired immune deficiency syndrome; AIDS; intracellular pathogen;  
 KW cytomegalovirus; mycobacterial infection; Epstein-Barr virus;  
 KW varicella zoster virus; human immunodeficiency virus; HIV;  
 KW phosphorothioate backbone; ss.  
 XX  
 OS Unidentified.  
 XX  
 FH Key Location/Qualifiers  
 FT modified\_base 1..22  
 FT /tag= a  
 FT /mod\_base= OTHER  
 FT /note= "phosphorothioate backbone"  
 FT modified\_base 1  
 FT /tag= b  
 FT /mod\_base= OTHER  
 FT /note= "Disulphide thymine"  
 FT  
 PN WO200172123-A1.  
 XX  
 XX 04-OCT-2001.  
 XX  
 PF 28-MAR-2001; 2001WO-US010118.  
 XX  
 PF 28-MAR-2000; 2000US-0192537P.  
 XX  
 PR 11-MAY-2000; 2000US-0203567P.  
 XX  
 PR 05-JUL-2000; 2000US-0215895P.  
 XX  
 XX (REGC ) UNIV CALIFORNIA.  
 PA (VETE-) DEPT VETERANS AFFAIRS.  
 XX  
 PI Raz E, Cho HJ, Richman DD, Horner AA;  
 DR WPI; 2002-010699/01.  
 XX  
 PT Increasing antigen-specific cytotoxic T lymphocyte activity in a CD4+ T  
 PT cell deficient individual, useful to treat immunodeficiency and block HIV  
 PT infection, comprises administering immunostimulatory nucleic acid.  
 XX  
 XX Example 1; Page 44; 91pp; English.  
 PS  
 XX The present invention relates to a method for increasing antigen-specific  
 CC cytotoxic T lymphocyte (CTL) activity in a CD4+ T cell-deficient  
 CC individual, comprising administering an immunostimulatory sequence  
 CC oligonucleotide (ISS-ODN). The immunostimulatory nucleic acids of the  
 CC invention are used in CD4+ T cell-deficient individuals to decrease  
 CC tumour load, to treat a primary or acquired immunodeficiency,  
 CC particularly where the acquired immunodeficiency is temporary and due to  
 CC cancer radiotherapy or chemotherapy or immunosuppression following bone  
 CC marrow or organ transplantation, or autoimmune disease treatment, or is  
 CC acquired immunodeficiency syndrome (AIDS). The nucleic acids may be used  
 CC to treat a person at risk of becoming CD4+ T cell-deficient, particularly  
 CC where someone at risk of cancer recurrence. They are also used to treat  
 CC infection, particularly by an intracellular pathogen, especially one  
 CC caused by cytomegalovirus. Mycobacterium tuberculosis, M. avium, Epstein-  
 CC Barr virus, a fungus yeast, varicella zoster virus or human  
 CC immunodeficiency virus (HIV). The present sequence is a 5' disulfide-  
 CC linked phosphorothioate immunostimulatory sequence oligonucleotide (ISS-  
 CC ODN), used in the exemplification of the invention  
 XX  
 SQ Sequence 22 BP; 6 A; 3 C; 7 G; 6 T; 0 U; 0 Other;  
 Query Match 100.0%; Score 22; DB 6; Length 22;  
 Best Local Similarity 100.0%; Pred. No. 0.21;  
 Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;  
 QY 1 TGACTGTGAACGTTGAGATGA 22  
 DB 1 TGACTGTGAACGTTGAGATGA 22

RESULT 33  
 ABQ75259  
 ID ABQ75259 standard; DNA; 22 BP.  
 XX  
 AC ABQ75259;  
 XX  
 DT 05-NOV-2002 (first entry)  
 XX  
 DE ISS immunomodulatory positive control oligonucleotide SEQ ID NO:59.  
 XX  
 KW Immunostimulatory sequence; ISS: immunomodulatory; immune response;  
 KW allergy; asthma; infectious disease; interferon-gamma; IFN-gamma;  
 KW idiopathic pulmonary fibrosis; viral infection; mycobacterial disease;  
 KW malaria; leishmaniasis; toxoplasmosis; schistosomiasis; clonorchiasis;  
 KW immunoglobulin E; IGE-related disorder; anti-allergic; antiasthmatic;  
 KW virucide; antibacterial; protozoacide; ss.  
 XX  
 OS Synthetic.  
 XX  
 PN WO200252002-A2.  
 XX  
 XX 04-JUL-2002.  
 PD  
 PF 27-DEC-2001; 2001WO-US050821.  
 XX  
 PF 27-DEC-2000; 2000US-0258675P.  
 XX  
 PR (DYNA-) DYNAVAX TECHNOLOGIES CORP.  
 XX  
 PI Fearon KL, Dina D;  
 XX  
 DR WPI; 2002-657426/70.  
 XX  
 PT Immunomodulatory polynucleotide for modulating an immune response in a  
 PT subject suffering from disorders associated with Th2-type immune  
 PT response, e.g. allergy, or infectious disease, comprises an  
 PT immunostimulatory sequence.  
 XX  
 XX Example 1; Page 71; 95pp; English.  
 PS  
 XX The present invention describes an immunomodulatory polynucleotide (I)  
 CC comprising an immunostimulatory sequence (ISS). Also described: (1) an  
 CC immunomodulatory composition comprising (I); (2) an immunomodulatory  
 CC polynucleotide/microcarrier (IMP/MC) complex, comprising (I) linked to a  
 CC biodegradable MC, where the MC is less than 10 micrometre in size; and  
 CC (3) a kit comprising (I). (I) has anti-allergic, antiasthmatic, virucide,  
 CC antibacterial and protozoacide activities, and can be used as a modulator  
 CC of immune response. (I) is useful for modulating an immune response in an  
 CC individual suffering from disorders associated with a Th2-type immune  
 CC response, especially an allergy or asthma, or an infectious disease. (I)  
 CC is also useful for increasing interferon-gamma (IFN-gamma) in an  
 CC individual having idiopathic pulmonary fibrosis, or IFN-alpha in an  
 CC individual having a viral infection. (I) is further useful for  
 CC ameliorating a symptom of an infectious disease caused by a cellular  
 CC pathogen such as mycobacterial disease, malaria, leishmaniasis,  
 CC toxoplasmosis, schistosomiasis and clonorchiasis in an individual, or a  
 CC symptom of an immunoglobulin E (IGE)-related disorder, preferably an  
 CC allergy-related disorder, in particular asthma in an individual. The  
 CC present sequence represents an immunomodulatory related oligonucleotide  
 CC which was used in an example from the present invention  
 XX  
 SQ Sequence 22 BP; 6 A; 3 C; 7 G; 6 T; 0 U; 0 Other;  
 Query Match 100.0%; Score 22; DB 6; Length 22;  
 Best Local Similarity 100.0%; Pred. No. 0.21;  
 Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;  
 QY 1 TGACTGTGAACGTTGAGATGA 22  
 DB 1 TGACTGTGAACGTTGAGATGA 22



**RESULT 34**

AB075153  
ID AB075153 standard; DNA; 22 BP.

XX AC  
XX AB075153;  
DT 05-NOV-2002 (first entry)

ISS immunomodulatory oligonucleotide SEQ ID NO:2.

KW Immunostimulatory sequence; ISS: immunomodulatory; immune response;  
KW allergy; asthma; infectious disease; interferon-gamma; IFN-gamma;  
KW idiopathic pulmonary fibrosis; viral infection; mycobacterial disease;  
KW malaria; leishmaniasis; toxoplasmosis; schistosomiasis; clonorchiasis;  
KW immunoglobulin E; IgE-related disorder; antiallergic; antiasthmatic;  
KW virucide; antibacterial; protozoacide; ss.  
XX  
OS Synthetic.  
XX  
FH Key Location/Qualifiers  
FT 13  
FT mlec\_RNA /tag= a  
FT /note= "uracil"

M0200252002-A2.  
PD 04-JUL-2002.  
PF 27-DEC-2001; 2001MO-US050821.  
PR 27-DEC-2000; 2000US-0258675P.  
PA (DYNA-) DYNAVAX TECHNOLOGIES CORP.  
PI Fearon KL, Dana D;  
DR WPI; 2002-657426/70.

Immunomodulatory polynucleotide for modulating an immune response in a subject suffering from disorders associated with Th2-type immune response, e.g. allergy, or infectious disease, comprises an immunostimulatory sequence.

Pt Claim 4; Page 20; 95bp; English.

The present invention describes an immunomodulatory polynucleotide (I) comprising an immunostimulation sequence (ISS). Also described: (1) an immunomodulatory composition comprising (1); (2) an immunomodulatory polynucleotide/microcarrier (IMF/MC) complex, comprising (1) linked to a biodegradable MC, where the MC is less than 10 micrometre in size; and (3) a kit comprising (1). (1) has antiallergic, antiasthmatic, virucide, antibacterial and protozoacide activities, and can be used as a modulator of immune response. (1) is useful for modulating an immune response in an individual suffering from disorders associated with a Th2-type immune response, especially an allergy or asthma, or an infectious disease. (1) is also useful for increasing interferon-gamma (IFN-gamma) in an individual having idiopathic pulmonary fibrosis, or IFN-alpha in an individual having a viral infection. (1) is further useful for ameliorating a symptom of an infectious disease caused by a cellular pathogen such as mycobacterial disease, malaria, leishmaniasis, toxoplasmosis, schistosomiasis and clonorchiasis in an individual, or a symptom of an immunoglobulin E (IgE)-related disorder, preferably an allergy-related disorder, in particular asthma in an individual. The present sequence represents an immunomodulatory oligonucleotide which is specifically claimed in the present invention

XX CC  
CC Sequence 22 BP; 6 A; 3 C; 7 G; 5 T; 1 U; 0 Other;

Query Match 100.0%; Score 22; DB 6; Length 22;  
Best Local Similarity 95.5%; Pred. No. 0.21;  
Matches 21; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

1 TGACTGTAAAGCTTCGAATCA 22

D8		:	
	1	TGACTGTGAACGTCCTCGAGATGA	22
XX	RESULT_35		
XX	ABQ75206		
XX	ID	ABQ75206 standard; DNA; 22 BP.	
XX	ABQ75206;		
XX	DT	05-NOV-2002 (first entry)	
XX	ISS	immunomodulatory oligonucleotide SEQ ID NO:40.	
XX			
XX	Immunostimulatory sequence; ISS: immunomodulatory; immune response;		
KW	allergy; asthma; infectious disease; interferon-gamma; IFN-gamma;		
KW	idiopathic pulmonary fibrosis; viral infection; mycobacterial disease;		
KW	malaria; leishmaniasis; toxoplasmosis; schistosomiasis; clonorchiasis;		
KW	immunoglobulin E; IgE-related disorder; antiallergic; antiasthmatic;		
KW	virucide; antibacterial; protozoacide; ss.		
XX	Synthetic.		
XX			
FH	Key	Location/Qualifiers	
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FT		/*tag= a	
FT		/note= "uracil"	
XX	WO200252002-A2.		
XX			
PD	04-JUL-2002.		
PP	27-DEC-2001; 2001WO-US050821.		
PR	27-DEC-2000; 2000US-0258675P.		
PA	(DYNAVAX-) DYNAVAX TECHNOLOGIES CORP.		
P1	Fearon KL, Dina D;		
DR	WPI; 2002-657426/70.		
XX			
PT	Immunomodulatory polynucleotide for modulating an immune response in a		
PT	subject suffering from disorders associated with Th2-type immune		
PT	response, e.g. allergy, or infectious disease, comprises an		
PT	immunostimulatory sequence.		
XX			
PS	Disclosure; Page 22; 95pp; English.		
CC	The present invention describes an immunomodulatory polynucleotide (I)		
CC	comprising an immunostimulatory sequence (ISS). Also described: (1) an		
CC	immunomodulatory composition comprising (I); (2) an immunomodulatory		
CC	polynucleotide/microcarrier (IMP/MC) complex, comprising (I) linked to a		
CC	biodegradable MC, where the MC is less than 10 micrometre in size; and		
CC	(3) a kit comprising (I). (I) has anti-allergic, anti-asthmatic, virucide,		
CC	antibacterial and protozoacide activities, and can be used as a modulator		
CC	of immune response. (I) is useful for modulating an immune response in an		
CC	individual suffering from disorders associated with a Th2-type immune		
CC	response, especially an allergy or asthma, or an infectious disease. (I)		
CC	is also useful for increasing interferon-gamma (IFN-gamma) in an		
CC	individual having idiopathic pulmonary fibrosis, or IFN-alpha in an		
CC	animal/or a symptom of an infectious disease caused by a cellular		
CC	pathogen such as mycobacteriasis and clonorchiasis, leishmaniasis,		
CC	toxoplasmosis, schistosomiasis and clonorchiasis in an individual, or a		
CC	symptom of an immunoglobulin E (IgE)-related disorder, preferably an		
CC	allergy-related disorder, in particular asthma in an individual. The		
CC	present sequence represents an immunomodulatory oligonucleotide from the		
CC	present invention		
XX			
XO	Sequence 22 BP; 6 A; 3 C; 7 G; 5 T; 1 U; 0 Other;		
Query Match	100.0%; Score 22; DB 6; Length 22;		

Best Local Similarity 95.5%; Pred. No. 0.21;  
Matches 21; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

OY 1 TGACTGTGAACGTTGCAGATGA 22  
|||||  
ID 1 TGACTGTGAACGTTGCAGATGA 22

RESULT 36  
ABV73190  
ID ABV73190 standard; DNA; 22 BP.

AC ABV73190;

DT 08-JAN-2003 (first entry)

DE Nucleotide sequence of an immunostimulatory oligonucleotide ISS-1.

XX Immunomodulator; immunostimulant; antiinflammatory; antiasthmatic; Th2;  
KW antiallergic; dermatological; vaccine; gene therapy; immune response; ss.

OS Synthetic.

XX WO200274922-A2.

XX 26-SEP-2002.

XX 15-MAR-2002; 2002WO-US008207.

XX 16-MAR-2001; 2001US-0276865P.

XX (REGC ) UNIV CALIFORNIA.

XX Broide DH, Raz E;

XX WPI; 2002-740857/80.

PT Suppressing a symptom of an allergic response in a subject, useful for  
PT preventing inflammation associated with allergy, comprises administering  
PT to an antigen-sensitized host first and second doses of an  
PT immunomodulatory nucleic acid.

XX Example; Page 27; 98pp; English.

XX The invention relates to suppressing symptoms of allergic response that  
CC involves administering to an antigen-sensitized mammalian host a dose of  
CC a composition comprising an immunomodulatory nucleic acid, and a second  
CC dose of a composition comprising an immunomodulatory nucleic acid, about  
CC 1 day - 8 weeks after the first dose. The immunomodulatory nucleic acid  
CC comprises a nucleotide sequence comprising 5'-CG-3'. The methods are  
CC useful for suppressing a symptom of an allergic reaction in a subject,  
CC maintaining suppression of a Th2 immune response and maintaining  
CC stimulation of a Th1 immune response. One method is useful in preventing  
CC the onset of, or rapidly suppress, antigen-stimulated inflammation in a  
CC host. The immunostimulatory nucleic acids are useful in the treatment and  
CC prevention of inflammation associated with allergy, including antigen-  
CC stimulated granulocyte infiltration of tissue, such as occurs in the  
CC respiratory passages of asthmatics during an asthma attack, for boosting  
CC the immune responsiveness of a mammalian host to a sensitizing antigen,  
CC and for treating a host suffering from inflammatory conditions such as  
CC asthma, nasal polyposis, allergic rhinitis, atopic dermatitis, allergic  
CC conjunctivitis, eosinophilic fasciitis, idiopathic hyperesinophilic  
CC syndrome, and cutaneous basophil hypersensitivity. The present sequence  
CC represents the nucleotide sequence of an immunomodulatory oligonucleotide  
XX

XX Sequence 22 BP; 6 A; 3 C; 7 G; 6 T; 0 U; 0 Other;

Query Match 100.0%; Score 22; DB 6; Length 22;

Best Local Similarity 100.0%; Pred. No. 0.21;

Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 1 TGACTGTGAACGTTGCAGATGA 22  
|||||

DB 1 TGACTGTGAACGTTGCAGATGA 22

RESULT 37  
AAS16348  
ID AAS16348 standard; DNA; 22 BP.

XX AAS16348;

DT 14-FEB-2002 (first entry)

DE ISS polynucleotide #1 useful for treating papillomavirus infections.

XX Animal papillomavirus infection; human papillomavirus; HPV; STD; wart;  
KW sexually transmitted disease; cervical cancer; immune response;  
KW immunostimulatory sequence; ISS; virucide; phosphorothioate; ss.

XX Synthetic.

XX Key Location/Qualifiers

FT modified\_base 1..22

FT /tag= a

FT /mod\_base= OTHER

FT /note= "Optionally phosphorothioate linkages"

XX WO200168117-A2.

XX 20-SEP-2001.

XX 12-MAR-2001; 2001WO-US007842.

XX 10-MAR-2000; 2000US-0188265P.

XX 09-MAR-2001; 2001US-00802445.

XX (DVNA-) DYNAVAX TECHNOLOGIES CORP.

XX Van Nest G;

XX WPI; 2002-041172/05.

PT Treating, preventing or ameliorating papillomavirus infections, comprises  
PT administering a composition comprising a polynucleotide having an  
PT immunostimulatory sequence to the individual.

XX Claim 4; Page 39; 44pp; English.

XX The present invention relates to novel methods of treating, preventing,  
CC or reducing the severity or recurrence of a symptom of papillomavirus  
CC infection in an individual that has been exposed to or who is infected  
CC with papillomavirus. The method comprises administering a polynucleotide  
CC having an immunostimulatory sequence (ISS; AAS16348-AAS16355) which  
CC induces an immune response. A composition containing ISS is administered  
CC without a papillomavirus antigen. The composition can be included in a  
CC kit for ameliorating or preventing a symptom of human or animal  
CC papillomavirus infection. Infections with human papillomavirus (HPV)  
CC which can be prevented or treated using the method of the invention  
CC include sexually transmitted diseases (STDs), warts, papillomas and  
CC cervical cancer. The present sequence represents one of the ISS  
CC polynucleotides of the invention. Note: The present sequence is shown as  
CC single stranded in the specification, but the patentees state on page 20  
CC that this sequence may be double stranded  
XX

XX Sequence 22 BP; 6 A; 3 C; 7 G; 6 T; 0 U; 0 Other;

Query Match 100.0%; Score 22; DB 6; Length 22;

Best Local Similarity 100.0%; Pred. No. 0.21; Mismatches 0; Indels 0; Gaps 0;

Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 1 TGACTGTGAACGTTGCAGATGA 22  
|||||  
DB 1 TGACTGTGAACGTTGCAGATGA 22

RESULT 38  
 AAL44504  
 ID AAL44504 standard; DNA; 22 BP.  
 XX  
 AC AAL44504;  
 XX  
 DT 08-NOV-2002 (first entry)  
 XX  
 DE Cpg motif oligonucleotide #12.  
 XX  
 KM Vaccine; immune response; microparticle; ds; adsorbent surface;  
 KM poly(alpha-hydroxy acid); polyhydroxy butyric acid; polycaprolactone;  
 KM polyorthoester; polycyanoacrylate; detergent; submicron emulsion;  
 KM viral infection; bacterial infection; parasitic infection;  
 KM Cpg oligonucleotide.  
 XX  
 OS Unidentified.  
 XX  
 FN WO200226209-A2.  
 XX  
 PD 04-APR-2002.  
 XX  
 PF 28-SEP-2001; 2001WO-US030540.  
 XX  
 PR 28-SEP-2000; 2000US-023610SP.  
 PR 30-AUG-2001; 2001US-0315905P.  
 XX  
 PA (CHIR ) CHIRON CORP.  
 XX  
 PI O'hagan D, Otten G, Donnelly JJ, Polo JM, Barnett S, Singh M,  
 PI Ulmer J, Dubensky TW;  
 XX  
 DR WPI; 2002-519084/55.  
 XX  
 PT A microparticle to which a biologically active macromolecule is adsorbed,  
 PT for use as a vaccine composition to treat viral, bacterial or parasitic  
 PT infections, comprises a polymer microparticle, a detergent and a  
 PT submicron emulsion.  
 XX  
 PS Disclosure; Page 46; 100pp; English.  
 XX  
 CC The invention relates to a method of raising an immune response in a host  
 CC animal. The method of the invention comprises administering a  
 CC microparticle that has an adsorbent surface to which a first biologically  
 CC active macromolecule (e.g. a nucleic acid) has been adsorbed. The  
 CC microparticle comprises a polymer microparticle of poly(alpha-hydroxy  
 CC acid), a polyhydroxy butyric acid, a polycaprolactone, a polyorthoester,  
 CC a polycyanoacrylate, a detergent, and submicron emulsion. The method/  
 CC microparticle of the invention is useful for immunising a host animal  
 CC against viral, bacterial or parasitic infections. The present DNA  
 CC sequence represents a Cpg oligonucleotide of the invention  
 XX  
 SQ Sequence 22 BP; 6 A; 3 C; 7 G; 6 T; 0 U; 0 Other;  
 Query Match 100.0%; Score 22; DB 6; Length 22;  
 Best Local Similarity 100.0%; Pred. No. 0.21;  
 Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;  
 QY 1 TGACTGTGAACGTTGAGATGA 22  
 DB 1 TGACTGTGAACGTTGAGATGA 22  
 RESULT 39  
 ABA03856  
 ID ABA03856 standard; DNA; 22 BP.  
 XX  
 AC ABA03856;  
 XX  
 DT 12-FEB-2002 (first entry)  
 XX  
 DE Immunostimulatory sequence (ISS) SEQ ID NO:1.  
 XX

KM Immunostimulatory sequence; ISS; immunomodulation; HBV; HCV; infection;  
 KM hepatitis B virus; hepatitis C virus; virucide; anti-inflammation;  
 KM hepatotropic; gene therapy; hepatitis infection; viraemia; jaundice;  
 KM fatigue; abdominal pain; portal hypertension; cirrhosis;  
 KM phosphorochioate; ss.  
 XX  
 OS Synthetic.  
 XX  
 FN Key  
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 FT /tag= a  
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 FT /note= "phosphorochioate linkages"  
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 PN WO200168078-A2.  
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 PD 20-SEP-2001.  
 XX  
 PF 12-MAR-2001; 2001WO-US007931.  
 XX  
 PR 10-MAR-2000; 2000US-0188301P.  
 PR 09-MAR-2001; 2001US-00802370.  
 XX  
 PA (DYNA-) DYNAVAX TECHNOLOGIES CORP.  
 XX  
 PI Van Nest G;  
 XX  
 DR WPI; 2002-049000/06.  
 XX  
 PT Reducing viraemia and blood levels of hepatitis virus antigen in an  
 PT individual infected with hepatitis B virus, comprises administering a  
 PT composition comprising a polynucleotide having an immunostimulatory  
 PT sequence.  
 XX  
 PS Claim 5; Page 38; 43pp; English.  
 XX  
 CC The present invention describes a method for reducing viraemia or blood  
 CC levels of a hepatitis virus antigen in an individual infected with  
 CC hepatitis B virus (HBV). The method comprises administering a composition  
 CC comprising a polynucleotide having an immunostimulatory sequence (ISS) to  
 CC the individual, where the ISS comprises the sequence 5'-C'-G'-3', an HBV  
 CC antigen is not administered in conjunction with administration of the  
 CC composition, and where the composition is administered in an amount  
 CC sufficient to reduce HBV viraemia or blood levels of a hepatitis virus  
 CC antigen. ISS has virucide, anti-inflammatory and hepatotropic activities,  
 CC and can be used in gene therapy. The method can be used for suppressing  
 CC and/or ameliorating hepatitis infection in an individual, especially for  
 CC preventing, palliating, ameliorating, reducing and/or eliminating one or  
 CC more symptoms of HBV or HCV (hepatitis C virus) infection without  
 CC administering HBV or HCV antigens. The method is specifically useful for  
 CC reducing viraemia and hepatitis viral antigen in blood. ISS-containing  
 CC polynucleotides may also be used to improve physical symptoms such as  
 CC jaundice, fatigue, abdominal pain, and other clinical laboratory  
 CC findings associated with hepatitis such as blood levels of liver enzymes,  
 CC portal hypertension, or cirrhosis. The present sequence represents a  
 CC specifically claimed ISS oligonucleotide for use in the method of the  
 CC invention  
 XX  
 SQ Sequence 22 BP; 6 A; 3 C; 7 G; 6 T; 0 U; 0 Other;  
 Query Match 100.0%; Score 22; DB 6; Length 22;  
 Best Local Similarity 100.0%; Pred. No. 0.21;  
 Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;  
 QY 1 TGACTGTGAACGTTGAGATGA 22  
 DB 1 TGACTGTGAACGTTGAGATGA 22  
 RESULT 40  
 AB257964  
 ID AB257964 standard; DNA; 22 BP.  
 XX

Search completed: October 30, 2004, 17:06:04  
Job time : 226 secs

```

AC AB257964;
XX
XX 14-APR-2003 (first entry)
XX
XX Immunostimulatory oligodeoxynucleotide ISS-ODN 1018.
DE
XX ISS-ODN 1018; immunostimulant; vaccine; adjuvant; phosphorothioate;
XX gene therapy; liposome; ss.
XX
XX Synthetic.
XX
XX Key Location/Qualifiers
FH modified_base 1..22
FT /tag= a
FT /mod_base= OTHER
FT /note= "phosphorothioate linkage"
XX
XX WO2003000232-A2.
XX
XX 03-JAN-2003.
XX
XX 25-JUN-2002; 2002WO-IL000507.
XX
XX 25-JUN-2001; 2001US-0300072P.
XX 17-DEC-2001; 2001US-0339785P.
XX
XX (YISS ) YISSUM RES DEV CO HEBREW UNIV JERUSALEM.
XX (REGC ) UNIV CALIFORNIA.
XX
XX Baranholz Y, Kedari E, Louria-Hayon Y, Joseph A, Raz E;
XX Takabayashi K;
XX
XX WPI; 2003-201371/19.
XX
XX Loading immunostimulatory oligodeoxynucleotides (ISS-ODNs) in liposomes
XX useful for stimulating an immune response comprises solubilizing at least
XX one liposome-forming lipid in a solvent and drying or freeze-drying the
XX solution.
XX
XX Example; Page 19; 68pp; English.
XX
XX The present sequence is that of phosphorothioate immunostimulatory
XX oligodeoxynucleotide (ISS-ODN) 1018. The invention provides a novel, fast
XX and simple method of preparing liposomes efficiently loaded (i.e. at
XX least 60% loading) with ISS-ODN. The method is based on drying a
XX suspension of amphipathic material and then hydrating it with an aqueous
XX solution containing the ISS-ODN, thereby entrapping it in liposomes
XX formed from the lipid. The ISS-ODN is preferably an endotoxin-free ISS-
XX ODN with a phosphorothioate or phosphodiester backbone. Liposomal ISS-ODN
XX can be used e.g. as a vaccine adjuvant against pathogens and cancer, in
XX the treatment or prevention of diseases caused by certain infectious
XX microorganisms, in the treatment or prevention of allergic diseases, or
XX to boost innate immunity. In examples of the invention, ISS-ODN 1018 was
XX encapsulated in large multilamellar liposomes with up to 95% efficiency.
XX The liposomal formulation was a considerably more potent parenteral
XX adjuvant in mice than the soluble form of ISS-ODN, as shown in
XX experiments with an influenza vaccine. Enhancement of the systemic
XX humoral and cellular response was demonstrated by liposomal ISS-ODN 1018
XX co-administered with hepatitis B vaccine, and of the systemic humoral
XX response when administered with tuberculosis vaccine. Liposomal ISS-ODN
XX 1018 was also used as a adjuvant for a cancer (murine mammary carcinoma)
XX vaccine, and activated resistance to leishmaniasis when administered
XX after infection
XX
XX Sequence 22 BP; 6 A; 3 C; 7 G; 6 T; 0 U; 0 Other:
SQ
Query Match 100.0%; Score 22; DB 8; Length 22;
Best Local Similarity 100.0%; Pred. No. 0.21;
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
QY 1 TGACTGTGAACGTTGAGATGA 22
DB 1 TGACTGTGAACGTTGAGATGA 22

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GenCore version 5.1.6  
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OM nucleic - nucleic search, using SW model

Run on: October 30, 2004, 16:17:51 ; Search time 53 Seconds  
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Maximum DB seq length: 200000000

Post-processing: Minimum Match 0%  
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Listing first 45 summaries

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Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

#### SUMMARIES

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2	22	100.0	22	4	US-09-347-343-32
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4	22	100.0	22	4	US-09-820-484-3
5	22	100.0	22	4	US-09-774-403A-1
6	22	100.0	22	4	US-09-296-477-2
7	22	100.0	22	4	US-09-308-036A-1
8	22	100.0	22	4	US-09-791-500-1
9	22	100.0	22	4	US-09-565-906-2
10	22	95.5	22	4	US-09-296-477-15
11	22	92.7	22	3	US-09-092-314-2
12	22	92.7	22	4	US-09-820-484-2
13	22	92.7	22	4	US-09-820-484-6
14	22	92.7	22	4	US-09-774-403A-2
15	22	92.7	22	4	US-09-296-477-1
16	22	92.7	22	4	US-09-296-477-5
17	22	92.7	22	4	US-09-296-477-6
18	22	92.7	22	4	US-09-791-500-4
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20	22	92.7	22	4	US-09-791-500-6
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22	22	88.2	22	4	US-09-296-477-12
23	22	85.5	22	3	US-09-092-314-1
24	22	85.5	22	3	US-09-092-314-3
25	22	85.5	22	3	US-09-092-314-10
26	22	85.5	22	4	US-09-235-742-20
27	22	85.5	22	4	US-09-347-343-33

28	18.8	85.5	22	4	US-09-820-484-7	Sequence 7, Appli
29	18.8	85.5	22	4	US-09-774-403A-3	Sequence 3, Appli
30	18.8	85.5	22	4	US-09-296-477-3	Sequence 3, Appli
31	18.8	85.5	22	4	US-09-296-477-8	Sequence 8, Appli
32	18.8	85.5	22	4	US-09-308-036A-2	Sequence 2, Appli
33	18.8	85.5	22	4	US-09-791-500-3	Sequence 3, Appli
34	18.8	85.5	22	4	US-09-791-500-8	Sequence 8, Appli
35	17.2	78.2	22	3	US-09-092-314-4	Sequence 4, Appli
36	17.2	78.2	22	4	US-09-296-477-9	Sequence 4, Appli
37	17.2	78.2	22	4	US-09-296-477-13	Sequence 13, Appli
38	17.2	78.2	22	4	US-09-791-500-9	Sequence 9, Appli
39	15.6	70.9	22	3	US-09-092-314-5	Sequence 5, Appli
40	15.6	70.9	22	3	US-09-092-314-7	Sequence 7, Appli
41	15.6	70.9	22	3	US-09-092-314-8	Sequence 8, Appli
42	15.6	70.9	22	4	US-09-791-500-2	Sequence 2, Appli
c 43	15.6	70.9	768	4	US-09-543-681A-2526	Sequence 2526, Ap
44	15.6	70.9	795	4	US-09-270-767-7086	Sequence 7086, Ap
45	15.6	70.9	795	4	US-09-270-767-22368	Sequence 22368, A

#### ALIGNMENTS

```

RESULT 1
US-09-235-742-19
; Sequence 19, Application US/09235742
; Patent No. 6498148
; GENERAL INFORMATION:
; APPLICANT: Raz, Eyal
; TITLE OF INVENTION: Immunization-Free Methods for Treating
; TITLE OF INVENTION: Antigen-Stimulated Inflammation in a Mammalian Host and
; TITLE OF INVENTION: Shifting the Host's Antigen Immune Responsiveness to a TH1
; FILE REFERENCE: 6510-170CON4
; CURRENT APPLICATION NUMBER: US/09/235,742
; EARLIER FILING DATE: 1999-01-21
; EARLIER APPLICATION NUMBER: 08/927,120
; EARLIER FILING DATE: 1997-09-05
; EARLIER APPLICATION NUMBER: 08/593,554
; EARLIER FILING DATE: 1996-01-30
; EARLIER APPLICATION NUMBER: 08/725,968
; EARLIER FILING DATE: 1996-10-04
; EARLIER APPLICATION NUMBER: 60/028,118
; EARLIER FILING DATE: 1996-10-11
; NUMBER OF SEQ ID NOS: 20
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 19
; LENGTH: 22
; TYPE: DNA
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Recombinant or Synthetic Sequence
US-09-235-742-19

Query Match      100.0%; Score 22; DB 4; Length 22;
Best Local Similarity 100.0%; Pred. No. 0.027;
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY      1 TGACGTGACGTCGAGATGA 22
DB      1 TGACGTGACGTCGAGATGA 22

RESULT 2
US-09-347-343-32
; Sequence 32, Application US/09347343A
; Patent No. 6514948
; GENERAL INFORMATION:
; APPLICANT: RAZ, Eyal R.
; APPLICANT: KOBAYASHI, Hiroko
; TITLE OF INVENTION: METHOD FOR ENHANCING AN IMMUNE RESPONSE
; FILE REFERENCE: 30448.64US01
; CURRENT APPLICATION NUMBER: US/09/347,343A

```

```
/ CURRENT FILING DATE: 1999-07-02
/ NUMBER OF SEQ ID NOS: 40
/ SOFTWARE: FastSeq for Windows Version 3.0
/ SEQ ID NO 32
/ LENGTH: 22
/ TYPE: DNA
/ ORGANISM: synthetic oligonucleotide
US-09-347-343-32

Query Match
Best Local Similarity 100.0%; Score 22; DB 4; Length 22;
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 TGACTGTGAACGTTGCAGATGA 22
Db 1 TGACTGTGAACGTTGCAGATGA 22

RESULT 3
US-09-820-484-1
/ Sequence 1, Application US/09820484
/ Patent No. 6534062
/ GENERAL INFORMATION:
/ APPLICANT: Raz, Eyal
/ APPLICANT: Cho, Hearn Jay
/ APPLICANT: Richman, Douglas
/ APPLICANT: Horner, Anthony A.
/ TITLE OF INVENTION: Method for Increasing a Cytotoxic T
/ TITLE OF INVENTION: Lymphocyte Response in vivo.
/ FILE REFERENCE: 06510-188US1
/ CURRENT APPLICATION NUMBER: US/09/820,484
/ PRIOR FILING DATE: 2001-03-28
/ PRIOR APPLICATION NUMBER: US 60/192,537
/ PRIOR FILING DATE: 2000-03-28
/ PRIOR APPLICATION NUMBER: US 60/203,567
/ PRIOR FILING DATE: 2000-05-11
/ PRIOR APPLICATION NUMBER: US 60/215,895
/ PRIOR FILING DATE: 2000-07-05
/ NUMBER OF SEQ ID NOS: 8
/ SOFTWARE: FastSeq for Windows Version 4.0
/ SEQ ID NO 1
/ LENGTH: 22
/ TYPE: DNA
/ ORGANISM: Artificial Sequence
/ FEATURE:
/ OTHER INFORMATION: Disulfide-linked phosphorothioate ISS-ODN
/ NAME/KEY: modified base
/ LOCATION: (1)...(1)
/ OTHER INFORMATION: disulfide thymine
US-09-820-484-1

Query Match
Best Local Similarity 100.0%; Score 22; DB 4; Length 22;
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 TGACTGTGAACGTTGCAGATGA 22
Db 1 TGACTGTGAACGTTGCAGATGA 22

RESULT 4
US-09-820-484-3
/ Sequence 3, Application US/09820484
/ Patent No. 6534062
/ GENERAL INFORMATION:
/ APPLICANT: Raz, Eyal
/ APPLICANT: Cho, Hearn Jay
/ APPLICANT: Richman, Douglas
/ APPLICANT: Horner, Anthony A.
/ TITLE OF INVENTION: Method for Increasing a Cytotoxic T
/ TITLE OF INVENTION: Lymphocyte Response in vivo.
/ FILE REFERENCE: 06510-188US1
/ CURRENT APPLICATION NUMBER: US/09/820,484
```

```
/ CURRENT FILING DATE: 2001-03-28
/ PRIOR APPLICATION NUMBER: US 60/192,537
/ PRIOR FILING DATE: 2000-03-28
/ PRIOR APPLICATION NUMBER: US 60/203,567
/ PRIOR FILING DATE: 2000-05-11
/ PRIOR APPLICATION NUMBER: US 60/215,895
/ PRIOR FILING DATE: 2000-07-05
/ NUMBER OF SEQ ID NOS: 8
/ SOFTWARE: FastSeq for Windows Version 4.0
/ SEQ ID NO 3
/ LENGTH: 22
/ TYPE: DNA
/ ORGANISM: Artificial Sequence
/ FEATURE:
/ OTHER INFORMATION: phosphorothioate ISS-ODN
US-09-820-484-3

Query Match
Best Local Similarity 100.0%; Score 22; DB 4; Length 22;
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 TGACTGTGAACGTTGCAGATGA 22
Db 1 TGACTGTGAACGTTGCAGATGA 22

RESULT 5
US-09-774-403A-1
/ Sequence 1, Application US/09774403A
/ Patent No. 6552006
/ GENERAL INFORMATION:
/ APPLICANT: Eyal Raz
/ APPLICANT: Richard Kornbluth
/ APPLICANT: Antonio Catanzaro
/ APPLICANT: Tomoko Hayashi
/ APPLICANT: Dennis Carson
/ TITLE OF INVENTION: Immunomodulatory Polynucleotides in
/ TITLE OF INVENTION: Treatment of Infection by an Intracellular Pathogen
/ FILE REFERENCE: UCA1166
/ CURRENT APPLICATION NUMBER: US/09/774,403A
/ PRIOR FILING DATE: 2002-04-15
/ PRIOR APPLICATION NUMBER: 60/179,353
/ PRIOR FILING DATE: 2000-01-31
/ NUMBER OF SEQ ID NOS: 7
/ SOFTWARE: FastSeq for Windows Version 4.0
/ SEQ ID NO 1
/ LENGTH: 22
/ TYPE: DNA
/ ORGANISM: Artificial Sequence
/ FEATURE:
/ OTHER INFORMATION: Immunomodulatory sequence
US-09-774-403A-1

Query Match
Best Local Similarity 100.0%; Score 22; DB 4; Length 22;
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 TGACTGTGAACGTTGCAGATGA 22
Db 1 TGACTGTGAACGTTGCAGATGA 22

RESULT 6
US-09-296-477-2
/ Sequence 2, Application US/09296477A
/ Patent No. 6589940
/ GENERAL INFORMATION:
/ APPLICANT: RAZ, E.
/ APPLICANT: SCHWARTZ, D.
/ APPLICANT: ROMAN, M.
/ APPLICANT: DINA, D.
/ TITLE OF INVENTION: IMMUNOSTIMULATORY OLIGONUCLEOTIDES,
/ TITLE OF INVENTION: COMPOSITIONS THEREOF AND METHODS OF USE
```

```
; TITLE OF INVENTION: THEREOF
; FILE REFERENCE: 37782000420
; CURRENT APPLICATION NUMBER: US/09/296,477A
; CURRENT FILING DATE: 1999-04-22
; EARLIER APPLICATION NUMBER: 08/092,329
; EARLIER FILING DATE: 1998-06-05
; EARLIER APPLICATION NUMBER: 60/048,793
; EARLIER FILING DATE: 1997-06-06
; NUMBER OF SEQ ID NOS: 21
; SOFTWARE: FastSeq for Windows Version 3.0
; SEQ ID NO 2
; LENGTH: 22
; TYPE: DNA
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Synthetic construct
US-09-296-477-2

Query Match          100.0%; Score 22; DB 4; Length 22;
Best Local Similarity 100.0%; Pred. No. 0.027;
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY      1 TGACTGTGAACGTTGCAGATGA 22
        |||||||
DB      1 TGACTGTGAACGTTGCAGATGA 22

RESULT 7
US-09-308-036A-1
; Sequence 1, Application US/09308036A
; Patent No. 6610661
; GENERAL INFORMATION:
; APPLICANT: Carson, Dennis A.
; APPLICANT: Roman, Mark
; TITLE OF INVENTION: Immunostimulatory
; FILE REFERENCE: 6510-172CIP
; CURRENT APPLICATION NUMBER: US/09/308,036A
; CURRENT FILING DATE: 2000-02-16
; PRIOR APPLICATION NUMBER: PCT/US97/19004
; PRIOR FILING DATE: 1997-10-09
; PRIOR APPLICATION NUMBER: 60/028,118
; PRIOR FILING DATE: 1996-10-11
; NUMBER OF SEQ ID NOS: 2
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 1
; LENGTH: 22
; TYPE: DNA
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: D1018 polynucleotide
US-09-308-036A-1

Query Match          100.0%; Score 22; DB 4; Length 22;
Best Local Similarity 100.0%; Pred. No. 0.027;
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY      1 TGACTGTGAACGTTGCAGATGA 22
        |||||||
DB      1 TGACTGTGAACGTTGCAGATGA 22

RESULT 8
US-09-791-500-1
; Sequence 1, Application US/09791500
; Patent No. 6613751
; GENERAL INFORMATION:
; APPLICANT: Raz, Eyal
; APPLICANT: Rachmilewitz, Daniel
; TITLE OF INVENTION: Method for Treating Inflammatory Bowel
; FILE REFERENCE: 6510-202US1
; DISEASE AND OTHER FORMS OF GASTROINTESTINAL INFLAMMATION.
```

```
; CURRENT APPLICATION NUMBER: US/09/791,500
; CURRENT FILING DATE: 2001-02-22
; NUMBER OF SEQ ID NOS: 39
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 1
; LENGTH: 22
; TYPE: DNA
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: synthetic polynucleotide sequence
US-09-791-500-1

Query Match          100.0%; Score 22; DB 4; Length 22;
Best Local Similarity 100.0%; Pred. No. 0.027;
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY      1 TGACTGTGAACGTTGCAGATGA 22
        |||||||
DB      1 TGACTGTGAACGTTGCAGATGA 22

RESULT 9
US-09-565-906-2
; Sequence 2, Application US/09565906
; Patent No. 6737066
; GENERAL INFORMATION:
; APPLICANT: Moss, Ronald B.
; TITLE OF INVENTION: HIV Immunogenic Compositions and Methods
; FILE REFERENCE: P-IM 4029
; CURRENT APPLICATION NUMBER: US/09/565,906
; CURRENT FILING DATE: 2000-05-05
; PRIOR APPLICATION NUMBER: US 60/132,762
; PRIOR FILING DATE: 1999-05-06
; PRIOR APPLICATION NUMBER: US 60/150,667
; PRIOR FILING DATE: 1999-08-25
; NUMBER OF SEQ ID NOS: 4
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 2
; LENGTH: 22
; TYPE: DNA
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: phosphorothioate-modified synthetic
US-09-565-906-2

Query Match          100.0%; Score 22; DB 4; Length 22;
Best Local Similarity 100.0%; Pred. No. 0.027;
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY      1 TGACTGTGAACGTTGCAGATGA 22
        |||||||
DB      1 TGACTGTGAACGTTGCAGATGA 22

RESULT 10
US-09-296-477-15
; Sequence 15, Application US/09296477A
; Patent No. 6589940
; GENERAL INFORMATION:
; APPLICANT: RAZ, E.
; APPLICANT: SCHWARTZ, D.
; APPLICANT: ROMAN, M.
; APPLICANT: DINI, D.
; TITLE OF INVENTION: IMMUNOSTIMULATORY OLIGONUCLEOTIDES,
; COMPOSITIONS THEREOF AND METHODS OF USE
; FILE REFERENCE: 37782000420
; CURRENT APPLICATION NUMBER: US/09/296,477A
; CURRENT FILING DATE: 1999-04-22
; EARLIER APPLICATION NUMBER: 09/092,329
; EARLIER FILING DATE: 1998-06-05
; EARLIER APPLICATION NUMBER: 60/048,793
```

```
; EARLIER FILING DATE: 1997-06-06
; NUMBER OF SEQ ID NOS: 21
; SOFTWARE: FastSeq for Windows Version 3.0
; SEQ ID NO 15
; LENGTH: 22
; TYPE: DNA
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Synthetic construct
; NAME/KEY: modified base
; LOCATION: (11)...(11)
; OTHER INFORMATION: 5-bromocytosine
US-09-296-477-15

Query Match          95.5%; Score 21; DB 4; Length 22;
Best Local Similarity 95.5%; Pred. No. 0.087;
Matches 21; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

QY      1 TGACTGTGAACCTTCGAGATGA 22
DB      1 TGACTGTGAANGTTCGAGATGA 22

RESULT 11
US-09-092-314-2
; Sequence 2, Application US/09092314
; Patent No. 6225292
; GENERAL INFORMATION:
; APPLICANT: Raz, Eyal
; APPLICANT: Roman, Mark
; TITLE OF INVENTION: Inhibitors of DNA Immunostimulatory
; Patent No. 6225292
; FILE REFERENCE: 6510-173US1
; CURRENT APPLICATION NUMBER: US/09/092,314
; CURRENT FILING DATE: 1998-06-05
; PRIOR APPLICATION NUMBER: 60/048,794
; PRIOR FILING DATE: 1997-06-06
; NUMBER OF SEQ ID NOS: 11
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 2
; LENGTH: 22
; TYPE: DNA
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Oligonucleotide
US-09-092-314-2

Query Match          92.7%; Score 20.4; DB 3; Length 22;
Best Local Similarity 95.5%; Pred. No. 0.18;
Matches 21; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

QY      1 TGACTGTGAACCTTCGAGATGA 22
DB      1 TGACTGTGAACCTTCGAGATGA 22

RESULT 12
US-09-820-484-2
; Sequence 2, Application US/09820484
; Patent No. 6534062
; GENERAL INFORMATION:
; APPLICANT: Raz, Eyal
; APPLICANT: Cho, Hearn Jay
; APPLICANT: Richman, Douglas
; APPLICANT: Horner, Anthony A.
; TITLE OF INVENTION: Method for Increasing a Cytotoxic T
; FILE REFERENCE: 06510-188US1
; CURRENT APPLICATION NUMBER: US/09/820,484
; CURRENT FILING DATE: 2001-03-28
; PRIOR APPLICATION NUMBER: US 60/192,537
```

```
; PRIOR FILING DATE: 2000-03-28
; PRIOR APPLICATION NUMBER: US 60/203,567
; PRIOR FILING DATE: 2000-05-11
; PRIOR APPLICATION NUMBER: US 60/215,895
; PRIOR FILING DATE: 2000-07-05
; NUMBER OF SEQ ID NOS: 8
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 2
; LENGTH: 22
; TYPE: DNA
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: mutated ODN
US-09-820-484-2

Query Match          92.7%; Score 20.4; DB 4; Length 22;
Best Local Similarity 95.5%; Pred. No. 0.18;
Matches 21; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

QY      1 TGACTGTGAACCTTCGAGATGA 22
DB      1 TGACTGTGAACCTTCGAGATGA 22

RESULT 13
US-09-820-484-6
; Sequence 6, Application US/09820484
; Patent No. 6534062
; GENERAL INFORMATION:
; APPLICANT: Raz, Eyal
; APPLICANT: Cho, Hearn Jay
; APPLICANT: Richman, Douglas
; APPLICANT: Horner, Anthony A.
; TITLE OF INVENTION: Method for Increasing a Cytotoxic T
; FILE REFERENCE: 06510-188US1
; CURRENT APPLICATION NUMBER: US/09/820,484
; CURRENT FILING DATE: 2001-03-28
; PRIOR APPLICATION NUMBER: US 60/192,537
; PRIOR FILING DATE: 2000-03-28
; PRIOR APPLICATION NUMBER: US 60/203,567
; PRIOR FILING DATE: 2000-05-11
; PRIOR APPLICATION NUMBER: US 60/215,895
; PRIOR FILING DATE: 2000-07-05
; NUMBER OF SEQ ID NOS: 8
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 6
; LENGTH: 22
; TYPE: DNA
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: mutated control ODN
US-09-820-484-6

Query Match          92.7%; Score 20.4; DB 4; Length 22;
Best Local Similarity 95.5%; Pred. No. 0.18;
Matches 21; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

QY      1 TGACTGTGAACCTTCGAGATGA 22
DB      1 TGACTGTGAACCTTCGAGATGA 22

RESULT 14
US-09-774-403A-2
; Sequence 2, Application US/09774403A
; Patent No. 6552006
; GENERAL INFORMATION:
; APPLICANT: Eyal Raz
; APPLICANT: Richard Kornbluth
```



```

; APPLICANT: Antonio Catanzaro
; APPLICANT: Tomoko Hayashi
; APPLICANT: Dennis Carson
; TITLE OF INVENTION: Immunomodulatory Polynucleotides in
; TITLE OF INVENTION: Treatment of Infection by an Intracellular Pathogen
; FILE REFERENCE: UCAL166
; CURRENT APPLICATION NUMBER: US/09/774,403A
; PRIOR FILING DATE: 2002-04-15
; PRIOR APPLICATION NUMBER: 60/179,353
; PRIOR FILING DATE: 2000-01-31
; NUMBER OF SEQ ID NOS: 7
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 2
; LENGTH: 22
; TYPE: DNA
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Control sequence
US-09-774-403A-2
```

```

Query Match          92.7%; Score 20.4; DB 4; Length 22;
Best Local Similarity 95.5%; Pred. No. 0.18;
Matches 21; Conservative 0; Mismatches 1; Indels 0; Gaps 0;
```

```

QY 1 TGACTGTGAACGTTGAGATGA 22
    |||||
Db 1 TGACTGTGAACGTTGAGATGA 22
```

```

RESULT 15
US-09-296-477-1
; Sequence 1, Application US/09296477A
; Patent No. 6589940
; GENERAL INFORMATION:
; APPLICANT: RAZ, E.
; APPLICANT: SCHWARTZ, D.
; APPLICANT: ROMAN, M.
; APPLICANT: DINI, D.
; TITLE OF INVENTION: IMMUNOSTIMULATORY OLIGONUCLEOTIDES,
; TITLE OF INVENTION: COMPOSITIONS THEREOF AND METHODS OF USE
; TITLE OF INVENTION: THEREOF
; FILE REFERENCE: 37788200420
; CURRENT APPLICATION NUMBER: US/09/296,477A
; PRIOR FILING DATE: 1999-04-22
; EARLIER APPLICATION NUMBER: 09/092,329
; EARLIER FILING DATE: 1998-06-05
; EARLIER APPLICATION NUMBER: 60/048,793
; EARLIER FILING DATE: 1997-06-06
; NUMBER OF SEQ ID NOS: 21
; SOFTWARE: FastSeq for Windows Version 3.0
; SEQ ID NO 1
; LENGTH: 22
; TYPE: DNA
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Synthetic construct
US-09-296-477-1
```

```

Query Match          92.7%; Score 20.4; DB 4; Length 22;
Best Local Similarity 95.5%; Pred. No. 0.18;
Matches 21; Conservative 0; Mismatches 1; Indels 0; Gaps 0;
```

```

QY 1 TGACTGTGAACGTTGAGATGA 22
    |||||
Db 1 TGACTGTGAACGTTGAGATGA 22
```

```

RESULT 16
US-09-296-477-5/c
; Sequence 5, Application US/09296477A
; Patent No. 6589940
; GENERAL INFORMATION:
; APPLICANT: RAZ, E.
```

```

; APPLICANT: SCHWARTZ, D.
; APPLICANT: ROMAN, M.
; APPLICANT: DINI, D.
; TITLE OF INVENTION: IMMUNOSTIMULATORY OLIGONUCLEOTIDES,
; TITLE OF INVENTION: COMPOSITIONS THEREOF AND METHODS OF USE
; TITLE OF INVENTION: THEREOF
; FILE REFERENCE: 37788200420
; CURRENT APPLICATION NUMBER: US/09/296,477A
; PRIOR FILING DATE: 1999-04-22
; EARLIER APPLICATION NUMBER: 09/092,329
; EARLIER FILING DATE: 1998-06-05
; EARLIER APPLICATION NUMBER: 60/048,793
; EARLIER FILING DATE: 1997-06-06
; NUMBER OF SEQ ID NOS: 21
; SOFTWARE: FastSeq for Windows Version 3.0
; SEQ ID NO 5
; LENGTH: 22
; TYPE: DNA
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Synthetic construct
US-09-296-477-5
```

```

Query Match          92.7%; Score 20.4; DB 4; Length 22;
Best Local Similarity 95.5%; Pred. No. 0.18;
Matches 21; Conservative 0; Mismatches 1; Indels 0; Gaps 0;
```

```

QY 1 TGACTGTGAACGTTGAGATGA 22
    |||||
Db 22 TGACTGTGAACGTTGAGATGA 1
```

```

RESULT 17
US-09-296-477-6
; Sequence 6, Application US/09296477A
; Patent No. 6589940
; GENERAL INFORMATION:
; APPLICANT: RAZ, E.
; APPLICANT: SCHWARTZ, D.
; APPLICANT: ROMAN, M.
; APPLICANT: DINI, D.
; TITLE OF INVENTION: IMMUNOSTIMULATORY OLIGONUCLEOTIDES,
; TITLE OF INVENTION: COMPOSITIONS THEREOF AND METHODS OF USE
; TITLE OF INVENTION: THEREOF
; FILE REFERENCE: 37788200420
; CURRENT APPLICATION NUMBER: US/09/296,477A
; PRIOR FILING DATE: 1999-04-22
; EARLIER APPLICATION NUMBER: 09/092,329
; EARLIER FILING DATE: 1998-06-05
; EARLIER APPLICATION NUMBER: 60/048,793
; EARLIER FILING DATE: 1997-06-06
; NUMBER OF SEQ ID NOS: 21
; SOFTWARE: FastSeq for Windows Version 3.0
; SEQ ID NO 6
; LENGTH: 22
; TYPE: DNA
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Synthetic construct
US-09-296-477-6
```

```

Query Match          92.7%; Score 20.4; DB 4; Length 22;
Best Local Similarity 95.5%; Pred. No. 0.18;
Matches 21; Conservative 0; Mismatches 1; Indels 0; Gaps 0;
```

```

QY 1 TGACTGTGAACGTTGAGATGA 22
    |||||
Db 1 TGACTGTGAACGTTGAGATGA 22
```

```

RESULT 18
US-09-791-500-4
; Sequence 4, Application US/09791500
```



```

; TITLE OF INVENTION: COMPOSITIONS THEREOF AND METHODS OF USE
; FILE OF INVENTION: THEREOF
; FILE REFERENCE: 37782000420
; CURRENT APPLICATION NUMBER: US/09/296,477A
; CURRENT FILING DATE: 1999-04-22
; EARLIER APPLICATION NUMBER: 09/092,329
; EARLIER FILING DATE: 1998-06-05
; EARLIER APPLICATION NUMBER: 60/048,793
; EARLIER FILING DATE: 1997-06-06
; NUMBER OF SEQ ID NOS: 21
; SOFTWARE: FastSeq for Windows Version 3.0
; SEQ ID NO 12
; LENGTH: 22
; TYPE: DNA
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Synthetic construct
; NAME/KEY: modified base
; LOCATION: (11)...(11)
; OTHER INFORMATION: 5-bromocytosine
US-09-296-477-12
```

```

Query Match      88.2%; Score 19.4; DB 4; Length 22;
Best Local Similarity 90.9%; Pred. No. 0.58;
Matches 20; Conservative 0; Mismatches 2; Indels 0; Gaps 0;
```

```

QY      1 TGAAGTGAACGTTGAGATGA 22
Db      1 TGAAGTGAACGTTGAGATGA 22
```

```

RESULT 23
US-09-092-314-1
; Sequence 1, Application US/09092314
; Patent No. 6225292
; GENERAL INFORMATION:
; APPLICANT: Raz, Eyal
; APPLICANT: Roman, Mark
; TITLE OF INVENTION: Inhibitors of DNA Immunostimulatory
; TITLE OF INVENTION: Sequence Activity
; Patent No. 6225292
; FILE REFERENCE: 6510-173US1
; CURRENT APPLICATION NUMBER: US/09/092,314
; CURRENT FILING DATE: 1998-06-05
; PRIOR APPLICATION NUMBER: 60/048,794
; PRIOR FILING DATE: 1997-06-06
; NUMBER OF SEQ ID NOS: 11
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 1
; LENGTH: 22
; TYPE: DNA
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Oligonucleotide
US-09-092-314-1
```

```

Query Match      85.5%; Score 18.8; DB 3; Length 22;
Best Local Similarity 90.9%; Pred. No. 1.2;
Matches 20; Conservative 0; Mismatches 2; Indels 0; Gaps 0;
```

```

QY      1 TGAAGTGAACGTTGAGATGA 22
Db      1 TGAAGTGAACGTTGAGATGA 22
```

```

RESULT 24
US-09-092-314-3
; Sequence 3, Application US/09092314
; Patent No. 6225292
; GENERAL INFORMATION:
; APPLICANT: Raz, Eyal
; APPLICANT: Roman, Mark
```

```

; TITLE OF INVENTION: Inhibitors of DNA Immunostimulatory
; FILE OF INVENTION: Sequence Activity
; FILE REFERENCE: 6510-173US1
; CURRENT APPLICATION NUMBER: US/09/092,314
; CURRENT FILING DATE: 1998-06-05
; EARLIER APPLICATION NUMBER: 60/048,794
; EARLIER FILING DATE: 1997-06-06
; NUMBER OF SEQ ID NOS: 11
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 3
; LENGTH: 22
; TYPE: DNA
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Oligonucleotide
US-09-092-314-3
```

```

Query Match      85.5%; Score 18.8; DB 3; Length 22;
Best Local Similarity 90.9%; Pred. No. 1.2;
Matches 20; Conservative 0; Mismatches 2; Indels 0; Gaps 0;
```

```

QY      1 TGAAGTGAACGTTGAGATGA 22
Db      1 TGAAGTGAACGTTGAGATGA 22
```

```

RESULT 25
US-09-092-314-10
; Sequence 10, Application US/09092314
; Patent No. 6225292
; GENERAL INFORMATION:
; APPLICANT: Raz, Eyal
; APPLICANT: Roman, Mark
; TITLE OF INVENTION: Inhibitors of DNA Immunostimulatory
; TITLE OF INVENTION: Sequence Activity
; Patent No. 6225292
; FILE REFERENCE: 6510-173US1
; CURRENT APPLICATION NUMBER: US/09/092,314
; CURRENT FILING DATE: 1998-06-05
; PRIOR APPLICATION NUMBER: 60/048,794
; PRIOR FILING DATE: 1997-06-06
; NUMBER OF SEQ ID NOS: 11
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 10
; LENGTH: 22
; TYPE: DNA
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Oligonucleotide
US-09-092-314-10
```

```

Query Match      85.5%; Score 18.8; DB 3; Length 22;
Best Local Similarity 90.9%; Pred. No. 1.2;
Matches 20; Conservative 0; Mismatches 2; Indels 0; Gaps 0;
```

```

QY      1 TGAAGTGAACGTTGAGATGA 22
Db      1 TGAAGTGAACGTTGAGATGA 22
```

```

RESULT 26
US-09-235-742-20
; Sequence 20, Application US/09235742
; Patent No. 6498148
; GENERAL INFORMATION:
; APPLICANT: Raz, Eyal
; TITLE OF INVENTION: Immunization-Free Methods for Treating
; TITLE OF INVENTION: Antigen-Stimulated Inflammation in a Mammalian Host and
; TITLE OF INVENTION: Shifting the Host's Antigen Immune Responsiveness to a TH1
; FILE REFERENCE: 6510-170CON4
; CURRENT APPLICATION NUMBER: US/09/235,742
```

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/ CURRENT FILING DATE: 1999-01-21
/ EARLIER APPLICATION NUMBER: 08/927,120
/ EARLIER FILING DATE: 1997-09-05
/ EARLIER APPLICATION NUMBER: 08/593,554
/ EARLIER FILING DATE: 1996-01-30
/ EARLIER APPLICATION NUMBER: 08/725,968
/ EARLIER FILING DATE: 1996-10-04
/ EARLIER APPLICATION NUMBER: 60/028,118
/ EARLIER FILING DATE: 1996-10-11
/ NUMBER OF SEQ ID NOS: 20
/ SOFTWARE: FastSeq for Windows Version 4.0
/ SEQ ID NO 20
/ LENGTH: 22
/ TYPE: DNA
/ ORGANISM: Artificial Sequence
/ FEATURE:
/ OTHER INFORMATION: Recombinant or Synthetic Sequence
US-09-235-742-20
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```
Query Match      85.5%; Score 18.8; DB 4; Length 22;
Best Local Similarity 90.9%; Pred. No. 1.2;
Matches 20; Conservative 0; Mismatches 2; Indels 0; Gaps 0;
```

```
QY      1 TGAAGTGAACCTTCAGATGA 22
         |||||
Db       1 TGAAGTGAACCTTCAGATGA 22
```

```
RESULT 27
US-09-347-343-33
/ Sequence 33, Application US/09347343A
/ Patent No. 6514948
/ GENERAL INFORMATION:
/ APPLICANT: RAZ, Eyal R.
/ APPLICANT: KOBAVASHI, Hiroko
/ TITLE OF INVENTION: METHOD FOR ENHANCING AN IMMUNE RESPONSE
/ FILE REFERENCE: 30448.64US01
/ CURRENT APPLICATION NUMBER: US/09/347,343A
/ CURRENT FILING DATE: 1999-07-02
/ NUMBER OF SEQ ID NOS: 40
/ SOFTWARE: FastSeq for Windows Version 3.0
/ SEQ ID NO 33
/ LENGTH: 22
/ TYPE: DNA
/ ORGANISM: synthetic oligonucleotide
US-09-347-343-33
```

```
Query Match      85.5%; Score 18.8; DB 4; Length 22;
Best Local Similarity 90.9%; Pred. No. 1.2;
Matches 20; Conservative 0; Mismatches 2; Indels 0; Gaps 0;
```

```
QY      1 TGAAGTGAACCTTCAGATGA 22
         |||||
Db       1 TGAAGTGAACCTTCAGATGA 22
```

```
RESULT 28
US-09-820-484-7
/ Sequence 7, Application US/09820484
/ Patent No. 6534062
/ GENERAL INFORMATION:
/ APPLICANT: RAZ, Eyal
/ APPLICANT: Cho, Hearn Jay
/ APPLICANT: Richman, Douglas
/ APPLICANT: Horner, Anthony A.
/ TITLE OF INVENTION: Method for Increasing a Cytotoxic T
/ FILE REFERENCE: 06510-188US1
/ CURRENT APPLICATION NUMBER: US/09/820,484
/ CURRENT FILING DATE: 2001-03-28
/ PRIOR APPLICATION NUMBER: US 60/192,537
/ PRIOR FILING DATE: 2000-03-28
/ PRIOR APPLICATION NUMBER: US 60/203,567
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/ PRIOR FILING DATE: 2000-05-11
/ PRIOR APPLICATION NUMBER: US 60/215,895
/ PRIOR FILING DATE: 2000-07-05
/ NUMBER OF SEQ ID NOS: 8
/ SOFTWARE: FastSeq for Windows Version 4.0
/ SEQ ID NO 7
/ LENGTH: 22
/ TYPE: DNA
/ ORGANISM: Artificial Sequence
/ FEATURE:
/ OTHER INFORMATION: MODN
US-09-820-484-7
```

```
Query Match      85.5%; Score 18.8; DB 4; Length 22;
Best Local Similarity 90.9%; Pred. No. 1.2;
Matches 20; Conservative 0; Mismatches 2; Indels 0; Gaps 0;
```

```
QY      1 TGAAGTGAACCTTCAGATGA 22
         |||||
Db       1 TGAAGTGAACCTTCAGATGA 22
```

```
RESULT 29
US-09-774-403A-3
/ Sequence 3, Application US/09774403A
/ Patent No. 6552006
/ GENERAL INFORMATION:
/ APPLICANT: Richard Kornbluth
/ APPLICANT: Antonio Catanzaro
/ APPLICANT: Tomoko Hayashi
/ APPLICANT: Dennis Carson
/ TITLE OF INVENTION: Immunomodulatory Polynucleotides in
/ FILE REFERENCE: UCL1166
/ CURRENT APPLICATION NUMBER: US/09/774,403A
/ CURRENT FILING DATE: 2002-04-15
/ PRIOR APPLICATION NUMBER: 60/179,353
/ PRIOR FILING DATE: 2000-01-31
/ NUMBER OF SEQ ID NOS: 7
/ SOFTWARE: FastSeq for Windows Version 4.0
/ SEQ ID NO 3
/ LENGTH: 22
/ TYPE: DNA
/ ORGANISM: Artificial Sequence
/ FEATURE:
/ OTHER INFORMATION: Control sequence
US-09-774-403A-3
```

```
Query Match      85.5%; Score 18.8; DB 4; Length 22;
Best Local Similarity 90.9%; Pred. No. 1.2;
Matches 20; Conservative 0; Mismatches 2; Indels 0; Gaps 0;
```

```
QY      1 TGAAGTGAACCTTCAGATGA 22
         |||||
Db       1 TGAAGTGAACCTTCAGATGA 22
```

```
RESULT 30
US-09-296-477-3
/ Sequence 3, Application US/09296477A
/ Patent No. 6589940
/ GENERAL INFORMATION:
/ APPLICANT: RAZ, E.
/ APPLICANT: SCHWARTZ, D.
/ APPLICANT: ROMAN, M.
/ APPLICANT: DINA, D.
/ TITLE OF INVENTION: IMMUNOSTIMULATORY OLIGONUCLEOTIDES,
/ TITLE OF INVENTION: COMPOSITIONS THEREOF AND METHODS OF USE
/ FILE REFERENCE: 37782000420
/ CURRENT APPLICATION NUMBER: US/09/296,477A
/ CURRENT FILING DATE: 1999-04-22
```

EARLIER APPLICATION NUMBER: 09/092,329  
EARLIER FILING DATE: 1998-06-05  
EARLIER APPLICATION NUMBER: 60/048,793  
EARLIER FILING DATE: 1997-06-06  
NUMBER OF SEQ ID NOS: 21  
SOFTWARE: FastSeq for Windows Version 3.0  
SEQ ID NO 3  
LENGTH: 22  
TYPE: DNA  
ORGANISM: Artificial Sequence  
FEATURE:  
OTHER INFORMATION: Synthetic construct  
US-09-296-477-3

Query Match 85.5%; Score 18.8; DB 4; Length 22;  
Best Local Similarity 90.9%; Pred. No. 1.2;  
Matches 20; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

QY 1 TGACTGTGAACGTTGAGATGA 22  
Db 1 TGACTGTGAACGTTAGAGATGA 22

RESULT 31  
US-09-296-477-8  
Sequence 8, Application US/09296477A  
Patent No. 6589940  
GENERAL INFORMATION:  
APPLICANT: RAZ, E.  
APPLICANT: SCHWARTZ, D.  
APPLICANT: ROMAN, M.  
TITLE OF INVENTION: IMMUNOSTIMULATORY OLIGONUCLEOTIDES.  
TITLE OF INVENTION: COMPOSITIONS THEREOF AND METHODS OF USE  
TITLE OF INVENTION: THEREOF  
FILE REFERENCE: 37788200420  
CURRENT APPLICATION NUMBER: US/09/296,477A  
CURRENT FILING DATE: 1999-04-22  
EARLIER APPLICATION NUMBER: 09/092,329  
EARLIER FILING DATE: 1998-06-05  
EARLIER APPLICATION NUMBER: 60/048,793  
EARLIER FILING DATE: 1997-06-06  
NUMBER OF SEQ ID NOS: 21  
SOFTWARE: FastSeq for Windows Version 3.0  
SEQ ID NO 8  
LENGTH: 22  
TYPE: DNA  
ORGANISM: Artificial Sequence  
FEATURE:  
OTHER INFORMATION: Synthetic construct  
US-09-296-477-8

Query Match 85.5%; Score 18.8; DB 4; Length 22;  
Best Local Similarity 90.9%; Pred. No. 1.2;  
Matches 20; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

QY 1 TGACTGTGAACGTTGAGATGA 22  
Db 1 TGACTGTGAACGTTAGAGATGA 22

RESULT 32  
US-09-308-036A-2  
Sequence 2, Application US/09308036A  
Patent No. 6610661  
GENERAL INFORMATION:  
APPLICANT: Carson, Dennis A.  
APPLICANT: Raz, Eyal  
APPLICANT: Roman, Mark  
TITLE OF INVENTION: Immunostimulatory  
TITLE OF INVENTION: Polynucleotide/Immunomodulatory Molecule Conjugates  
FILE REFERENCE: 6510-172CIP  
CURRENT APPLICATION NUMBER: US/09/308,036A

CURRENT FILING DATE: 2000-02-16  
PRIOR APPLICATION NUMBER: PCT/US97/19004  
PRIOR FILING DATE: 1997-10-09  
PRIOR APPLICATION NUMBER: 60/028,118  
PRIOR FILING DATE: 1996-10-11  
NUMBER OF SEQ ID NOS: 2  
SOFTWARE: FastSeq for Windows Version 4.0  
SEQ ID NO 2  
LENGTH: 22  
TYPE: DNA  
ORGANISM: Artificial Sequence  
FEATURE:  
OTHER INFORMATION: D41019 polynucleotide  
US-09-308-036A-2

Query Match 85.5%; Score 18.8; DB 4; Length 22;  
Best Local Similarity 90.9%; Pred. No. 1.2;  
Matches 20; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

QY 1 TGACTGTGAACGTTGAGATGA 22  
Db 1 TGACTGTGAACGTTGAGATGA 22

RESULT 33  
US-09-791-500-3  
Sequence 3, Application US/09791500  
Patent No. 6613751  
GENERAL INFORMATION:  
APPLICANT: Raz, Eyal  
APPLICANT: Rachmilewitz, Daniel  
TITLE OF INVENTION: Method for Treating Inflammatory Bowel  
TITLE OF INVENTION: Disease and Other Forms of Gastrointestinal Inflammation.  
FILE REFERENCE: 6510-202U51  
CURRENT APPLICATION NUMBER: US/09/791,500  
CURRENT FILING DATE: 2001-02-22  
NUMBER OF SEQ ID NOS: 39  
SOFTWARE: FastSeq for Windows Version 4.0  
SEQ ID NO 3  
LENGTH: 22  
TYPE: DNA  
ORGANISM: Artificial Sequence  
FEATURE:  
OTHER INFORMATION: synthetic polynucleotide sequence  
US-09-791-500-3

Query Match 85.5%; Score 18.8; DB 4; Length 22;  
Best Local Similarity 90.9%; Pred. No. 1.2;  
Matches 20; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

QY 1 TGACTGTGAACGTTGAGATGA 22  
Db 1 TGACTGTGAACCTTAGAGATGA 22

RESULT 34  
US-09-791-500-8  
Sequence 8, Application US/09791500  
Patent No. 6613751  
GENERAL INFORMATION:  
APPLICANT: Raz, Eyal  
APPLICANT: Rachmilewitz, Daniel  
TITLE OF INVENTION: Method for Treating Inflammatory Bowel  
TITLE OF INVENTION: Disease and Other Forms of Gastrointestinal Inflammation.  
FILE REFERENCE: 6510-202U51  
CURRENT APPLICATION NUMBER: US/09/791,500  
CURRENT FILING DATE: 2001-02-22  
NUMBER OF SEQ ID NOS: 39  
SOFTWARE: FastSeq for Windows Version 4.0  
SEQ ID NO 8  
LENGTH: 22  
TYPE: DNA  
ORGANISM: Artificial Sequence

```

; FEATURE:
; OTHER INFORMATION: synthetic polynucleotide sequence
US-09-791-500-8
Query Match      85.5%; Score 18.8; DB 4; Length 22;
Best Local Similarity 90.9%; Pred. No. 1.2;
Matches 20; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

QY      1 TGAAGTGAAGCTTCGAGATGA 22
        |||||
Db      1 TGAAGTGAAGCTTCGAGATGA 22

RESULT 35
US-09-296-477-13
; Sequence 4, Application US/09092314
; Patent No. 6225292
; GENERAL INFORMATION:
; APPLICANT: RAZ, Eyal
; APPLICANT: ROMAN, Mark
; TITLE OF INVENTION: Inhibitors of DNA Immunostimulatory
; TITLE OF INVENTION: Sequence Activity
; Patent No. 6225292
; FILE REFERENCE: 6510-173US1
; CURRENT APPLICATION NUMBER: US/09/092,314
; CURRENT FILING DATE: 1998-06-05
; PRIOR APPLICATION NUMBER: 60/048,794
; PRIOR FILING DATE: 1997-06-06
; NUMBER OF SEQ ID NOS: 11
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 4
; LENGTH: 22
; TYPE: DNA
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Oligonucleotide
US-09-092-314-4

Query Match      78.2%; Score 17.2; DB 3; Length 22;
Best Local Similarity 86.4%; Pred. No. 7.8;
Matches 19; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

QY      1 TGAAGTGAAGCTTCGAGATGA 22
        |||||
Db      1 TGAAGTGAAGCTTCGAGATGA 22

RESULT 36
US-09-296-477-9
; Sequence 9, Application US/09296477A
; Patent No. 6589940
; GENERAL INFORMATION:
; APPLICANT: SCHWARTZ, D.
; APPLICANT: ROMAN, M.
; APPLICANT: DINA, D.
; TITLE OF INVENTION: IMMUNOSTIMULATORY OLIGONUCLEOTIDES,
; TITLE OF INVENTION: COMPOSITIONS THEREOF AND METHODS OF USE
; TITLE OF INVENTION: THEREOF
; FILE REFERENCE: 37788200420
; CURRENT APPLICATION NUMBER: US/09/296,477A
; CURRENT FILING DATE: 1999-04-22
; EARLIER APPLICATION NUMBER: 09/092,329
; EARLIER FILING DATE: 1998-06-05
; EARLIER APPLICATION NUMBER: 60/048,793
; EARLIER FILING DATE: 1997-06-06
; NUMBER OF SEQ ID NOS: 21
; SOFTWARE: FastSeq for Windows Version 3.0
; SEQ ID NO 9
; LENGTH: 22
; TYPE: DNA
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: synthetic polynucleotide sequence
US-09-791-500-9
```

```

; OTHER INFORMATION: Synthetic construct
US-09-296-477-9
Query Match      78.2%; Score 17.2; DB 4; Length 22;
Best Local Similarity 86.4%; Pred. No. 7.8;
Matches 19; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

QY      1 TGAAGTGAAGCTTCGAGATGA 22
        |||||
Db      1 TGAAGTGAAGCTTCGAGATGA 22

RESULT 37
US-09-296-477-13
; Sequence 13, Application US/09296477A
; Patent No. 6589940
; GENERAL INFORMATION:
; APPLICANT: RAZ, E.
; APPLICANT: SCHWARTZ, D.
; APPLICANT: ROMAN, M.
; APPLICANT: DINA, D.
; TITLE OF INVENTION: IMMUNOSTIMULATORY OLIGONUCLEOTIDES,
; TITLE OF INVENTION: COMPOSITIONS THEREOF AND METHODS OF USE
; TITLE OF INVENTION: THEREOF
; FILE REFERENCE: 37788200420
; CURRENT APPLICATION NUMBER: US/09/296,477A
; CURRENT FILING DATE: 1999-04-22
; EARLIER APPLICATION NUMBER: 09/092,329
; EARLIER FILING DATE: 1998-06-05
; EARLIER APPLICATION NUMBER: 60/048,793
; EARLIER FILING DATE: 1997-06-06
; NUMBER OF SEQ ID NOS: 21
; SOFTWARE: FastSeq for Windows Version 3.0
; SEQ ID NO 13
; LENGTH: 22
; TYPE: DNA
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: synthetic construct
US-09-296-477-13

Query Match      78.2%; Score 17.2; DB 4; Length 22;
Best Local Similarity 86.4%; Pred. No. 7.8;
Matches 19; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

QY      1 TGAAGTGAAGCTTCGAGATGA 22
        |||||
Db      1 TGAAGTGAAGCTTCGAGATGA 22

RESULT 38
US-09-791-500-9
; Sequence 9, Application US/09791500
; Patent No. 6613751
; GENERAL INFORMATION:
; APPLICANT: RAZ, Eyal
; APPLICANT: Rachmilewitz, Daniel
; TITLE OF INVENTION: Method for Treating Inflammatory Bowel
; TITLE OF INVENTION: Disease and Other Forms of Gastrointestinal Inflammation.
; FILE REFERENCE: 6510-202US1
; CURRENT APPLICATION NUMBER: US/09/791,500
; CURRENT FILING DATE: 2001-02-22
; NUMBER OF SEQ ID NOS: 39
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 9
; LENGTH: 22
; TYPE: DNA
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: synthetic polynucleotide sequence
US-09-791-500-9

Query Match      78.2%; Score 17.2; DB 4; Length 22;
```

Best Local Similarity 86.4%; Pred. No. 7.8;  
Matches 19; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

QY 1 TGAAGTGAAGCTTCAGATGA 22  
1 TGAAGTGAAGCTTCAGATGA 22

Db 1 TGAAGTGAAGCTTCAGATGA 22

Search completed: October 30, 2004, 17:31:42  
Job time : 53 secs

RESULT 39  
US-09-092-314-5  
; Sequence 5, Application US/09092314  
; Patent No. 6225292  
; GENERAL INFORMATION:  
; APPLICANT: Raz, Eyal  
; APPLICANT: Roman, Mark  
; TITLE OF INVENTION: Inhibitors of DNA Immunostimulatory  
; TITLE OF INVENTION: Sequence Activity  
; Patent No. 6225292  
; FILE REFERENCE: 6510-173US1  
; CURRENT APPLICATION NUMBER: US/09/092,314  
; CURRENT FILING DATE: 1998-06-05  
; PRIOR APPLICATION NUMBER: 60/048,794  
; PRIOR FILING DATE: 1997-06-06  
; NUMBER OF SEQ ID NOS: 11  
; SOFTWARE: FastSeq for Windows Version 4.0  
; SEQ ID NO 5  
; LENGTH: 22  
; TYPE: DNA  
; ORGANISM: Artificial Sequence  
; FEATURE:  
; OTHER INFORMATION: Oligonucleotide  
US-09-092-314-5

Query Match 70.9%; Score 15.6; DB 3; Length 22;  
Best Local Similarity 81.8%; Pred. No. 52;  
Matches 18; Conservative 0; Mismatches 4; Indels 0; Gaps 0;

QY 1 TGAAGTGAAGCTTCAGATGA 22  
1 TGAAGTGAAGCTTCAGATGA 22

RESULT 40  
US-09-092-314-7  
; Sequence 7, Application US/09092314  
; Patent No. 6225292  
; GENERAL INFORMATION:  
; APPLICANT: Raz, Eyal  
; APPLICANT: Roman, Mark  
; TITLE OF INVENTION: Inhibitors of DNA Immunostimulatory  
; TITLE OF INVENTION: Sequence Activity  
; Patent No. 6225292  
; FILE REFERENCE: 6510-173US1  
; CURRENT APPLICATION NUMBER: US/09/092,314  
; CURRENT FILING DATE: 1998-06-05  
; PRIOR APPLICATION NUMBER: 60/048,794  
; PRIOR FILING DATE: 1997-06-06  
; NUMBER OF SEQ ID NOS: 11  
; SOFTWARE: FastSeq for Windows Version 4.0  
; SEQ ID NO 7  
; LENGTH: 22  
; TYPE: DNA  
; ORGANISM: Artificial Sequence  
; FEATURE:  
; OTHER INFORMATION: Oligonucleotide  
US-09-092-314-7

Query Match 70.9%; Score 15.6; DB 3; Length 22;  
Best Local Similarity 81.8%; Pred. No. 52;  
Matches 18; Conservative 0; Mismatches 4; Indels 0; Gaps 0;

QY 1 TGAAGTGAAGCTTCAGATGA 22  
1 TGAAGTGAAGCTTCAGATGA 22

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GenCore version 5.1.6  
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OM nucleic - nucleic search, using sw model

Run on: October 30, 2004, 17:30:52 ; Search time 213 Seconds  
(without alignments)  
529,611 Million cell updates/sec

Title: US-09-802-376-1

Perfect score: 22  
Sequence: 1 tgcactgtgacgttcgagatga 22

Scoring table: IDENTITY NUC  
Gapop 10.0, Gapext 1.0

Searched: 3413475 seqs, 2563800928 residues

Total number of hits satisfying chosen parameters: 6826950

Minimum DB seq length: 0  
Maximum DB seq length: 2000000000

Post-Processing: Minimum Match 0%  
Maximum Match 100%  
Listing first 45 summaries

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- 1: /cgnt2\_6/ptodata/1/pubpna/US07\_PUBCOMB.seq:\*
- 2: /cgnt2\_6/ptodata/1/pubpna/PCT\_NEW\_PUB.seq:\*
- 3: /cgnt2\_6/ptodata/1/pubpna/US06\_NEW\_PUB.seq:\*
- 4: /cgnt2\_6/ptodata/1/pubpna/US06\_PUBCOMB.seq:\*
- 5: /cgnt2\_6/ptodata/1/pubpna/US07\_NEW\_PUB.seq:\*
- 6: /cgnt2\_6/ptodata/1/pubpna/PCTUS\_PUBCOMB.seq:\*
- 7: /cgnt2\_6/ptodata/1/pubpna/US08\_NEW\_PUB.seq:\*
- 8: /cgnt2\_6/ptodata/1/pubpna/US08\_PUBCOMB.seq:\*
- 9: /cgnt2\_6/ptodata/1/pubpna/US09A\_PUBCOMB.seq:\*
- 10: /cgnt2\_6/ptodata/1/pubpna/US09B\_PUBCOMB.seq:\*
- 11: /cgnt2\_6/ptodata/1/pubpna/US09C\_PUBCOMB.seq:\*
- 12: /cgnt2\_6/ptodata/1/pubpna/US09\_NEW\_PUB.seq:\*
- 13: /cgnt2\_6/ptodata/1/pubpna/US10A\_PUBCOMB.seq:\*
- 14: /cgnt2\_6/ptodata/1/pubpna/US10B\_PUBCOMB.seq:\*
- 15: /cgnt2\_6/ptodata/1/pubpna/US10C\_PUBCOMB.seq:\*
- 16: /cgnt2\_6/ptodata/1/pubpna/US10D\_PUBCOMB.seq:\*
- 17: /cgnt2\_6/ptodata/1/pubpna/US10E\_PUBCOMB.seq:\*
- 18: /cgnt2\_6/ptodata/1/pubpna/US10\_NEW\_PUB.seq:\*
- 19: /cgnt2\_6/ptodata/1/pubpna/US11\_NEW\_PUB.seq:\*
- 20: /cgnt2\_6/ptodata/1/pubpna/US60\_NEW\_PUB.seq:\*
- 21: /cgnt2\_6/ptodata/1/pubpna/US60\_PUBCOMB.seq:\*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	ID	Description
1	22	100.0	22	9	US-09-802-686-1
2	22	100.0	22	9	US-09-802-685-1
3	22	100.0	22	9	US-09-791-500-1
4	22	100.0	22	9	US-09-802-376-1
5	22	100.0	22	9	US-09-774-403A-1
6	22	100.0	22	9	US-09-802-370-1
7	22	100.0	22	9	US-09-802-445-1
8	22	100.0	22	9	US-09-820-484-1
9	22	100.0	22	9	US-09-820-484-3
10	22	100.0	22	9	US-09-828-505-1
11	22	100.0	22	9	US-09-967-881-2
12	22	100.0	22	10	US-09-927-422A-1

13	22	100.0	22	10	US-09-738-046A-3	Sequence 3, Appli
14	22	100.0	22	10	US-09-927-884-1	Sequence 1, Appli
15	22	100.0	22	10	US-09-802-359-1	Sequence 1, Appli
16	22	100.0	22	10	US-09-967-464-19	Sequence 19, Appli
17	22	100.0	22	10	US-09-848-986-1	Sequence 1, Appli
18	22	100.0	22	14	US-10-056-420-4	Sequence 4, Appli
19	22	100.0	22	14	US-10-033-243-2	Sequence 2, Appli
20	22	100.0	22	14	US-10-033-243-40	Sequence 40, Appli
21	22	100.0	22	14	US-10-033-243-59	Sequence 59, Appli
22	22	100.0	22	14	US-10-214-288-1	Sequence 1, Appli
23	22	100.0	22	14	US-10-099-512-1	Sequence 1, Appli
24	22	100.0	22	14	US-10-229-208-19	Sequence 19, Appli
25	22	100.0	22	15	US-10-253-117-32	Sequence 32, Appli
26	22	100.0	22	15	US-10-233-121A-1	Sequence 1, Appli
27	22	100.0	22	15	US-10-219-143-1	Sequence 1, Appli
28	22	100.0	22	15	US-10-214-799-2	Sequence 2, Appli
29	22	100.0	22	15	US-10-340-275-1	Sequence 1, Appli
30	22	100.0	22	15	US-10-340-275-3	Sequence 3, Appli
31	22	100.0	22	15	US-10-339-885-1	Sequence 1, Appli
32	22	100.0	22	15	US-10-339-885-3	Sequence 3, Appli
33	22	100.0	22	15	US-10-176-883-2	Sequence 2, Appli
34	22	100.0	22	15	US-10-176-883-24	Sequence 24, Appli
35	22	100.0	22	15	US-10-176-883-79	Sequence 79, Appli
36	22	100.0	22	15	US-10-176-883-134	Sequence 134, App
37	22	100.0	22	15	US-10-412-151-1	Sequence 1, Appli
38	22	100.0	22	15	US-10-177-826-2	Sequence 2, Appli
39	22	100.0	22	15	US-10-177-826-24	Sequence 24, Appli
40	22	100.0	22	15	US-10-177-826-79	Sequence 79, Appli
41	22	100.0	22	15	US-10-177-826-134	Sequence 134, App
42	22	100.0	22	15	US-10-353-917-1	Sequence 1, Appli
43	22	100.0	22	15	US-10-357-760-1	Sequence 1, Appli
44	22	100.0	22	15	US-10-328-578-2	Sequence 2, Appli
45	22	100.0	22	15	US-10-328-578-24	Sequence 24, Appli

ALIGNMENTS

RESULT 1  
US-09-802-686-1  
; Sequence 1, Application US/09802686  
; Patent No. US20010046967A1  
; GENERAL INFORMATION:  
; APPLICANT: Dynavax Technologies Corporation  
; APPLICANT: Van Nest, Gary  
; TITLE OF INVENTION: METHODS OF PREVENTING AND TREATING  
; TITLE OF INVENTION: RESPIRATORY VIRAL INFECTION USING IMMUNOMODULATORY  
; FILE REFERENCE: POLYNUCLEOTIDE SEQUENCES  
; CURRENT APPLICATION NUMBER: US/09/802,686  
; CURRENT FILING DATE: 2001-03-09  
; PRIOR APPLICATION NUMBER: 60/188,583  
; PRIOR FILING DATE: 2000-03-10  
; NUMBER OF SEQ ID NOS: 10  
; SOFTWARE: FastSeq for Windows Version 4.0  
; SEQ ID NO 1  
; LENGTH: 22  
; TYPE: DNA  
; ORGANISM: Artificial Sequence  
; FEATURE:  
; OTHER INFORMATION: Polynucleotide containing CG  
US-09-802-686-1

Query Match 100.0%; Score 22; DB 9; Length 22;  
Best Local Similarity 100.0%; Pred.No. 0.36;  
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 1 TGACTGTGAACGTTGAGATGA 22  
|||||  
DB 1 TGACTGTGAACGTTGAGATGA 22

RESULT 2

US-09-802-685-1  
; Sequence 1, Application US/09802685  
; Patent No. US20020028784A1  
; GENERAL INFORMATION:  
; APPLICANT: Van Nest, Gary  
; APPLICANT: Eiden, Joseph J., Jr.  
; TITLE OF INVENTION: METHODS OF PREVENTING AND TREATING VIRAL  
; FILE REFERENCE: 377882001600  
; CURRENT APPLICATION NUMBER: US/09/802,685  
; CURRENT FILING DATE: 2001-03-09  
; PRIOR APPLICATION NUMBER: U.S. 60/188,302  
; PRIOR FILING DATE: 2000-03-10  
; NUMBER OF SEQ ID NOS: 12  
; SOFTWARE: FastSeq for Windows Version 4.0  
; SEQ ID NO 1  
; LENGTH: 22  
; TYPE: DNA  
; ORGANISM: Artificial Sequence  
; FEATURE:  
; OTHER INFORMATION: Polynucleotide containing CG  
US-09-802-685-1

Query Match 100.0%; Score 22; DB 9; Length 22;  
Best Local Similarity 100.0%; Pred. No. 0.36;  
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 TGACTGTGAACGTTGAGATGA 22  
DB 1 TGACTGTGAACGTTGAGATGA 22

RESULT 3  
US-09-791-500-1  
; Sequence 1, Application US/09791500  
; Patent No. US20020042387A1  
; GENERAL INFORMATION:  
; APPLICANT: Raz, Eyal  
; APPLICANT: Rachmlilewitz, Daniel  
; TITLE OF INVENTION: Method for Treating Inflammatory Bowel  
; FILE REFERENCE: 6510-202US1  
; CURRENT APPLICATION NUMBER: US/09/791,500  
; CURRENT FILING DATE: 2001-02-22  
; NUMBER OF SEQ ID NOS: 39  
; SOFTWARE: FastSeq for Windows Version 4.0  
; SEQ ID NO 1  
; LENGTH: 22  
; TYPE: DNA  
; ORGANISM: Artificial Sequence  
; FEATURE:  
; OTHER INFORMATION: synthetic polynucleotide sequence  
US-09-791-500-1

Query Match 100.0%; Score 22; DB 9; Length 22;  
Best Local Similarity 100.0%; Pred. No. 0.36;  
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 TGACTGTGAACGTTGAGATGA 22  
DB 1 TGACTGTGAACGTTGAGATGA 22

RESULT 4  
US-09-802-376-1  
; Sequence 1, Application US/09802376  
; Patent No. US2002005477A1  
; GENERAL INFORMATION:  
; APPLICANT: Van Nest, Gary  
; APPLICANT: Tuck, Stephen  
; TITLE OF INVENTION: IMMUNOMODULATORY FORMULATIONS AND METHODS FOR USE THEREOF  
; FILE REFERENCE: 37788201700  
; CURRENT APPLICATION NUMBER: US/09/802,376

; CURRENT FILING DATE: 2001-03-09  
; PRIOR APPLICATION NUMBER: 60/188,557  
; PRIOR FILING DATE: 2000-03-10  
; NUMBER OF SEQ ID NOS: 11  
; SOFTWARE: FastSeq for Windows Version 4.0  
; SEQ ID NO 1  
; LENGTH: 22  
; TYPE: DNA  
; ORGANISM: Artificial Sequence  
; FEATURE:  
; OTHER INFORMATION: Polynucleotide containing CG  
US-09-802-376-1

Query Match 100.0%; Score 22; DB 9; Length 22;  
Best Local Similarity 100.0%; Pred. No. 0.36;  
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 TGACTGTGAACGTTGAGATGA 22  
DB 1 TGACTGTGAACGTTGAGATGA 22

RESULT 5  
US-09-774-403A-1  
; Sequence 1, Application US/09774403A  
; Publication No. US20020086295A1  
; GENERAL INFORMATION:  
; APPLICANT: Eyal Raz  
; APPLICANT: Richard Kornbluth  
; APPLICANT: Antonio Catanzaro  
; APPLICANT: Tomoko Hayashi  
; APPLICANT: Dennis Carson  
; TITLE OF INVENTION: Immunomodulatory Polynucleotides in  
; FILE REFERENCE: UCAL166  
; CURRENT APPLICATION NUMBER: US/09/774,403A  
; CURRENT FILING DATE: 2002-04-15  
; PRIOR APPLICATION NUMBER: 60/179,353  
; PRIOR FILING DATE: 2000-01-31  
; NUMBER OF SEQ ID NOS: 7  
; SOFTWARE: FastSeq for Windows Version 4.0  
; SEQ ID NO 1  
; LENGTH: 22  
; TYPE: DNA  
; ORGANISM: Artificial Sequence  
; FEATURE:  
; OTHER INFORMATION: Immunomodulatory sequence  
US-09-774-403A-1

Query Match 100.0%; Score 22; DB 9; Length 22;  
Best Local Similarity 100.0%; Pred. No. 0.36;  
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 TGACTGTGAACGTTGAGATGA 22  
DB 1 TGACTGTGAACGTTGAGATGA 22

RESULT 6  
US-09-802-370-1  
; Sequence 1, Application US/09802370  
; Patent No. US20020098199A1  
; GENERAL INFORMATION:  
; APPLICANT: Van Nest, Gary  
; APPLICANT: Eiden, Joseph J., Jr.  
; TITLE OF INVENTION: METHODS OF SUPPRESSING HEPATITIS VIRUS  
; FILE REFERENCE: 377882001200  
; CURRENT APPLICATION NUMBER: US/09/802,370  
; CURRENT FILING DATE: 2001-09-24  
; PRIOR APPLICATION NUMBER: 60/188,301  
; PRIOR FILING DATE: 2000-03-10  
; NUMBER OF SEQ ID NOS: 8

```
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 1
; LENGTH: 22
; TYPE: DNA
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Polynucleotide containing CG
US-09-802-370-1
```

```
Query Match          100.0%; Score 22; DB 9; Length 22;
Best Local Similarity 100.0%; Pred. No. 0.36;
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
```

```
Qy      1 TGACTGTGAACGTTGCGAGATGA 22
        |||
Db      1 TGACTGTGAACGTTGCGAGATGA 22
```

```
RESULT 7
US-09-802-445-1
; Sequence 1, Application US/09802445
; Patent No. US20020107212A1
; GENERAL INFORMATION:
; APPLICANT: Van Nest, Gary
; APPLICANT: Eiden, Joseph J. Jr.
; TITLE OF INVENTION: METHODS OF REDUCING PAPILLOMAVIRUS INFECTION USING IMMUNOMODULATORS
; FILE REFERENCE: 377882001300
; CURRENT APPLICATION NUMBER: US/09/802,445
; CURRENT FILING DATE: 2001-09-24
; PRIOR APPLICATION NUMBER: 60/188,265
; PRIOR FILING DATE: 2000-03-10
; NUMBER OF SEQ ID NOS: 8
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 1
; LENGTH: 22
; TYPE: DNA
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Polynucleotide containing CG
US-09-802-445-1
```

```
Query Match          100.0%; Score 22; DB 9; Length 22;
Best Local Similarity 100.0%; Pred. No. 0.36;
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
```

```
Qy      1 TGACTGTGAACGTTGCGAGATGA 22
        |||
Db      1 TGACTGTGAACGTTGCGAGATGA 22
```

```
RESULT 8
US-09-820-484-1
; Sequence 1, Application US/09820484
; Patent No. US20020142977A1
; GENERAL INFORMATION:
; APPLICANT: Raz, Eyal
; APPLICANT: Cho, Hearn Jay
; APPLICANT: Richman, Douglas
; APPLICANT: Horner, Anthony A.
; TITLE OF INVENTION: Method for Increasing a Cytotoxic T
; FILE REFERENCE: 06510-188US1
; CURRENT APPLICATION NUMBER: US/09/820,484
; CURRENT FILING DATE: 2001-03-28
; PRIOR APPLICATION NUMBER: US 60/192,537
; PRIOR FILING DATE: 2000-03-28
; PRIOR APPLICATION NUMBER: US 60/203,567
; PRIOR FILING DATE: 2000-05-11
; PRIOR APPLICATION NUMBER: US 60/215,895
; PRIOR FILING DATE: 2000-07-05
; NUMBER OF SEQ ID NOS: 8
; SOFTWARE: FastSeq for Windows Version 4.0
```

```
; SEQ ID NO 1
; LENGTH: 22
; TYPE: DNA
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Disulfide-linked phosphorothioate ISS-ODN
; NAME/KEY: modified_base
; LOCATION: (1)...(1)
; OTHER INFORMATION: disulfide thymine
US-09-820-484-1
```

```
Query Match          100.0%; Score 22; DB 9; Length 22;
Best Local Similarity 100.0%; Pred. No. 0.36;
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
```

```
Qy      1 TGACTGTGAACGTTGCGAGATGA 22
        |||
Db      1 TGACTGTGAACGTTGCGAGATGA 22
```

```
RESULT 9
US-09-820-484-3
; Sequence 3, Application US/09820484
; Patent No. US20020142977A1
; GENERAL INFORMATION:
; APPLICANT: Raz, Eyal
; APPLICANT: Cho, Hearn Jay
; APPLICANT: Richman, Douglas
; APPLICANT: Horner, Anthony A.
; TITLE OF INVENTION: Method for Increasing a Cytotoxic T
; FILE REFERENCE: 06510-188US1
; CURRENT APPLICATION NUMBER: US/09/820,484
; CURRENT FILING DATE: 2001-03-28
; PRIOR APPLICATION NUMBER: US 60/192,537
; PRIOR FILING DATE: 2000-03-28
; PRIOR APPLICATION NUMBER: US 60/203,567
; PRIOR FILING DATE: 2000-05-11
; PRIOR APPLICATION NUMBER: US 60/215,895
; PRIOR FILING DATE: 2000-07-05
; NUMBER OF SEQ ID NOS: 8
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 3
; LENGTH: 22
; TYPE: DNA
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: phosphorothioate ISS-ODN
US-09-820-484-3
```

```
Query Match          100.0%; Score 22; DB 9; Length 22;
Best Local Similarity 100.0%; Pred. No. 0.36;
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
```

```
Qy      1 TGACTGTGAACGTTGCGAGATGA 22
        |||
Db      1 TGACTGTGAACGTTGCGAGATGA 22
```

```
RESULT 10
US-09-828-505-1
; Sequence 1, Application US/09828505
; Patent No. US20020142978A1
; GENERAL INFORMATION:
; APPLICANT: Raz, Eyal
; APPLICANT: Takabayashi, Kenji
; APPLICANT: Nguyen, Minh-Duc
; TITLE OF INVENTION: Synergistic Improvements to
; FILE REFERENCE: 6510-203
; CURRENT APPLICATION NUMBER: US/09/828,505
; CURRENT FILING DATE: 2001-04-06
; PRIOR APPLICATION NUMBER: 60/195,890
```

; PRIOR FILING DATE: 2000-04-07  
; NUMBER OF SEQ ID NOS: 4  
; SOFTWARE: FastSeq for Windows Version 4.0  
; SEQ ID NO 1  
; LENGTH: 22  
; TYPE: DNA  
; ORGANISM: Artificial Sequence  
; FEATURE:  
; OTHER INFORMATION: Immunomodulatory nucleic acid sequence  
US-09-828-505-1

Query Match 100.0%; Score 22; DB 9; Length 22;  
Best Local Similarity 100.0%; Pred. No. 0.36;  
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 TGAAGTGAACGTTGAGATGA 22  
DB 1 TGAAGTGAACGTTGAGATGA 22

RESULT 11  
US-09-967-881-2  
; Sequence 2, Application US/09967881  
; Publication No. US20020192184A1  
; GENERAL INFORMATION:  
; APPLICANT: Assistance Publique - Hopitaux de Paris  
; APPLICANT: Institut National de la Sante et de la Recherche M  
; APPLICANT: Carpentier, Antoine  
; TITLE OF INVENTION: Use of Stabilised Oligonucleotides for Preparing A Medicament wit  
; FILE REFERENCE: 267/246 US  
; CURRENT APPLICATION NUMBER: US/09/967,881  
; NUMBER OF SEQ ID NOS: 48  
; SOFTWARE: PatentIn version 3.1  
; SEQ ID NO 2  
; LENGTH: 22  
; TYPE: DNA  
; ORGANISM: Artificial sequence  
; FEATURE:  
; OTHER INFORMATION: Oligodeoxynucleotide  
US-09-967-881-2

Query Match 100.0%; Score 22; DB 9; Length 22;  
Best Local Similarity 100.0%; Pred. No. 0.36;  
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 TGAAGTGAACGTTGAGATGA 22  
DB 1 TGAAGTGAACGTTGAGATGA 22

RESULT 12  
US-09-927-422A-1  
; Sequence 1, Application US/09927422A  
; Publication No. US2003002852A1  
; GENERAL INFORMATION:  
; APPLICANT: Van Nest, Gary  
; APPLICANT: Tuck, Stephen  
; APPLICANT: Fearon, Karen L.  
; APPLICANT: Dina, Dino  
; TITLE OF INVENTION: BIOGRADABLE IMMUNOMODULATORY  
; FILE REFERENCE: 377882001420  
; CURRENT APPLICATION NUMBER: US/09/927,422A  
; PRIOR FILING DATE: 2001-08-10  
; PRIOR APPLICATION NUMBER: U.S. 09/802,359  
; PRIOR FILING DATE: 2001-03-09  
; PRIOR APPLICATION NUMBER: U.S. 60/188,30  
; PRIOR FILING DATE: 2000-03-10  
; NUMBER OF SEQ ID NOS: 23  
; SOFTWARE: FastSeq for Windows Version 4.0  
; SEQ ID NO 1

; LENGTH: 22  
; TYPE: DNA  
; ORGANISM: Artificial Sequence  
; FEATURE:  
; OTHER INFORMATION: Polynucleotide containing CG  
US-09-927-422A-1

Query Match 100.0%; Score 22; DB 10; Length 22;  
Best Local Similarity 100.0%; Pred. No. 0.36;  
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 TGAAGTGAACGTTGAGATGA 22  
DB 1 TGAAGTGAACGTTGAGATGA 22

RESULT 13  
US-09-738-046A-3  
; Sequence 3, Application US/09738046A  
; Publication No. US20030054007A1  
; GENERAL INFORMATION:  
; APPLICANT: PELIGNER, PHILIP L.  
; APPLICANT: ZELPHART, OLIVIER  
; TITLE OF INVENTION: INTRACELLULAR PROTEIN DELIVERY  
; FILE REFERENCE: GTSYS.004A  
; CURRENT APPLICATION NUMBER: US/09/738,046A  
; NUMBER OF SEQ ID NOS: 3  
; SOFTWARE: FastSeq for Windows Version 4.0  
; SEQ ID NO 3  
; LENGTH: 22  
; TYPE: DNA  
; ORGANISM: Artificial Sequence  
; FEATURE:  
; OTHER INFORMATION: artificial sequence containing CpG sequence  
US-09-738-046A-3

Query Match 100.0%; Score 22; DB 10; Length 22;  
Best Local Similarity 100.0%; Pred. No. 0.36;  
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 TGAAGTGAACGTTGAGATGA 22  
DB 1 TGAAGTGAACGTTGAGATGA 22

RESULT 14  
US-09-927-884-1  
; Sequence 1, Application US/09927884  
; Publication No. US20030059773A1  
; GENERAL INFORMATION:  
; APPLICANT: Van Nest, Gary  
; APPLICANT: Tuck, Stephen  
; APPLICANT: Fearon, Karen L.  
; APPLICANT: Dina, Dino  
; TITLE OF INVENTION: IMMUNOMODULATORY FORMULATIONS AND  
; FILE REFERENCE: 377882001720  
; CURRENT APPLICATION NUMBER: US/09/927,884  
; PRIOR FILING DATE: 2001-08-10  
; PRIOR APPLICATION NUMBER: U.S. 09/802,376  
; PRIOR FILING DATE: 2001-03-09  
; PRIOR APPLICATION NUMBER: U.S. 60/188,557  
; PRIOR FILING DATE: 2000-03-10  
; NUMBER OF SEQ ID NOS: 14  
; SOFTWARE: FastSeq for Windows Version 4.0  
; SEQ ID NO 1  
; LENGTH: 22  
; TYPE: DNA  
; ORGANISM: Artificial Sequence  
; FEATURE:  
; OTHER INFORMATION: Polynucleotide containing CG

US-09-927-884-1

Query Match 100.0%; Score 22; DB 10; Length 22;  
Best Local Similarity 100.0%; Pred. No. 0.36;  
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 TGACTGTGAACGTTTCGAGATGA 22  
Db 1 TGACTGTGAACGTTTCGAGATGA 22

RESULT 15

US-09-802-359-1  
Sequence 1, Application US/09802359  
Publication No. US20030129251A1  
GENERAL INFORMATION:  
APPLICANT: Van Nest, Gary  
APPLICANT: Tuck, Stephen  
TITLE OF INVENTION: IMMUNOMODULATORY FORMULATIONS AND METHODS FOR USE THEREOF  
FILE REFERENCE: 37788201400  
CURRENT APPLICATION NUMBER: US/09/802,359  
CURRENT FILING DATE: 2001-03-09  
PRIOR APPLICATION NUMBER: 60/188,303  
PRIOR FILING DATE: 2000-03-10  
NUMBER OF SEQ ID NOS: 11  
SOFTWARE: FastSeq for Windows Version 4.0  
SEQ ID NO 1  
LENGTH: 22  
TYPE: DNA  
ORGANISM: Artificial Sequence  
FEATURE:  
OTHER INFORMATION: Polynucleotide containing CG  
US-09-802-359-1

Query Match 100.0%; Score 22; DB 10; Length 22;  
Best Local Similarity 100.0%; Pred. No. 0.36;  
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 TGACTGTGAACGTTTCGAGATGA 22  
Db 1 TGACTGTGAACGTTTCGAGATGA 22

RESULT 16

US-09-967-464-19  
Sequence 19, Application US/09967464  
Publication No. US20030138453A1  
GENERAL INFORMATION:  
APPLICANT: O'Hagan, Derek  
APPLICANT: Otten, Gillis  
APPLICANT: Donnelly, John J.  
APPLICANT: Polo, John M.  
APPLICANT: Barnett, Susan  
APPLICANT: Singh, Mamohan  
APPLICANT: Ulmer, Jeffrey  
APPLICANT: Dubensky, Jr., Thomas W.  
TITLE OF INVENTION: MICROPARTICLES FOR DELIVERY OF HETEROLOGOUS NUCLEIC ACIDS  
FILE REFERENCE: P1269, 004  
CURRENT APPLICATION NUMBER: US/09/967,464  
CURRENT FILING DATE: 2002-04-11  
PRIOR APPLICATION NUMBER: 60/236,105  
PRIOR FILING DATE: 2000-09-28  
PRIOR APPLICATION NUMBER: 60/315,905  
PRIOR FILING DATE: 2001-08-30  
NUMBER OF SEQ ID NOS: 68  
SOFTWARE: PatentIn version 3.1  
SEQ ID NO 19  
LENGTH: 22  
TYPE: DNA  
ORGANISM: Artificial Sequence  
FEATURE:  
OTHER INFORMATION: Artificial sequence is synthesized  
US-09-967-464-19

Query Match 100.0%; Score 22; DB 10; Length 22;  
Best Local Similarity 100.0%; Pred. No. 0.36;  
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 TGACTGTGAACGTTTCGAGATGA 22  
Db 1 TGACTGTGAACGTTTCGAGATGA 22

RESULT 17

US-09-848-986-1  
Sequence 1, Application US/09848986  
Publication No. US20030176573A1  
GENERAL INFORMATION:  
APPLICANT: Raz, Eyal  
APPLICANT: Loie, Augusto F.  
APPLICANT: Takabayashi, Kenji  
TITLE OF INVENTION: Agents that Modulate DNA-PK Activity and  
FILE REFERENCE: 06510168US1  
CURRENT APPLICATION NUMBER: US/09/848,986  
CURRENT FILING DATE: 2001-05-03  
PRIOR APPLICATION NUMBER: us 60/262321  
PRIOR FILING DATE: 2001-01-17  
PRIOR APPLICATION NUMBER: us 60/202,274  
PRIOR FILING DATE: 2000-05-05  
NUMBER OF SEQ ID NOS: 21  
SOFTWARE: FastSeq for Windows Version 4.0  
SEQ ID NO 1  
LENGTH: 22  
TYPE: DNA  
ORGANISM: Artificial Sequence  
FEATURE:  
OTHER INFORMATION: ISS-ODN  
US-09-848-986-1

Query Match 100.0%; Score 22; DB 10; Length 22;  
Best Local Similarity 100.0%; Pred. No. 0.36;  
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 TGACTGTGAACGTTTCGAGATGA 22  
Db 1 TGACTGTGAACGTTTCGAGATGA 22

RESULT 18

US-10-056-420-4  
Sequence 4, Application US/10056420  
Publication No. US2003004428A1  
GENERAL INFORMATION:  
APPLICANT: Moss, Ronald B.  
APPLICANT: Carlo, Dennis J.  
TITLE OF INVENTION: Method for Treating an HIV-Infected  
TITLE OF INVENTION: Individual By Combining Immunization With Structured  
FILE REFERENCE: P-1M 5158  
CURRENT APPLICATION NUMBER: US/10/056,420  
CURRENT FILING DATE: 2002-01-24  
PRIOR APPLICATION NUMBER: US 60/264,476  
PRIOR FILING DATE: 2001-01-26  
NUMBER OF SEQ ID NOS: 5  
SOFTWARE: FastSeq for Windows Version 4.0  
SEQ ID NO 4  
LENGTH: 22  
TYPE: DNA  
ORGANISM: Artificial Sequence  
FEATURE:  
OTHER INFORMATION: exemplary ISS sequence  
US-10-056-420-4

Query Match 100.0%; Score 22; DB 14; Length 22;  
Best Local Similarity 100.0%; Pred. No. 0.36;



```

; GENERAL INFORMATION:
; APPLICANT: Raz, Eyal
; APPLICANT: Broide, David
; TITLE OF INVENTION: Compositions and Methods for Modulating
; FILE REFERENCE: UCAL-170CIP15
; CURRENT APPLICATION NUMBER: US/10/099,512
; CURRENT FILING DATE: 2002-03-15
; PRIOR APPLICATION NUMBER: 09/235,742
; PRIOR FILING DATE: 1999-01-21
; PRIOR APPLICATION NUMBER: 08/927,120
; PRIOR FILING DATE: 1997-09-05
; PRIOR APPLICATION NUMBER: 09/265,191
; PRIOR FILING DATE: 1999-03-10
; PRIOR APPLICATION NUMBER: 08/593,554
; PRIOR FILING DATE: 1996-01-30
; PRIOR APPLICATION NUMBER: 60/276,865
; PRIOR FILING DATE: 2001-03-16
; NUMBER OF SEQ ID NOS: 4
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 1
; LENGTH: 22
; TYPE: DNA
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: synthetic DNA
US-10-099-512-1

```

```

Query Match          100.0%; Score 22; DB 14; Length 22;
Best Local Similarity 100.0%; Pred. No. 0.36;
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

```

```

QY      1 TGAAGTGAACGTTGAGATGA 22
        |||||
DB      1 TGAAGTGAACGTTGAGATGA 22

```

```

RESULT 24
US-10-229-208-19
; Sequence 19, Application US/10229208
; Publication No. US20030092663A1
; GENERAL INFORMATION:
; APPLICANT: Raz, Eyal
; TITLE OF INVENTION: Immunization-Free Methods for Treating
; TITLE OF INVENTION: Antigen-Stimulated Inflammation in a Mammalian Host and
; TITLE OF INVENTION: Shifting the Host's Antigen Immune Responsiveness to a THI
; FILE REFERENCE: UCAL-170CON9
; CURRENT APPLICATION NUMBER: US/10/229,208
; CURRENT FILING DATE: 2002-12-05
; PRIOR APPLICATION NUMBER: 09/235,742
; PRIOR FILING DATE: 1999-01-21
; PRIOR APPLICATION NUMBER: 08/927,120
; PRIOR FILING DATE: 1997-09-15
; NUMBER OF SEQ ID NOS: 20
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 19
; LENGTH: 22
; TYPE: DNA
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Recombinant or Synthetic Sequence with a
; OTHER INFORMATION: phosphothioate backbone
US-10-229-208-19

```

```

Query Match          100.0%; Score 22; DB 14; Length 22;
Best Local Similarity 100.0%; Pred. No. 0.36;
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

```

```

QY      1 TGAAGTGAACGTTGAGATGA 22
        |||||
DB      1 TGAAGTGAACGTTGAGATGA 22

```

```

RESULT 25
US-10-253-117-32
; Sequence 32, Application US/10253117
; Publication No. US20030119773A1
; GENERAL INFORMATION:
; APPLICANT: RAZ, Eyal R.
; APPLICANT: KOBAYASHI, Hiroko
; TITLE OF INVENTION: METHOD FOR ENHANCING AN IMMUNE RESPONSE
; FILE REFERENCE: 30448.64US01
; CURRENT APPLICATION NUMBER: US/10/253,117
; CURRENT FILING DATE: 2002-09-23
; PRIOR APPLICATION NUMBER: US/09/347,343
; PRIOR FILING DATE: 1999-07-02
; NUMBER OF SEQ ID NOS: 40
; SOFTWARE: FastSeq for Windows Version 3.0
; SEQ ID NO 32
; LENGTH: 22
; TYPE: DNA
; ORGANISM: synthetic oligonucleotide
US-10-253-117-32

```

```

Query Match          100.0%; Score 22; DB 15; Length 22;
Best Local Similarity 100.0%; Pred. No. 0.36;
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

```

```

QY      1 TGAAGTGAACGTTGAGATGA 22
        |||||
DB      1 TGAAGTGAACGTTGAGATGA 22

```

```

RESULT 26
US-10-233-121A-1
; Sequence 1, Application US/10233121A
; Publication No. US20030125284A1
; GENERAL INFORMATION:
; APPLICANT: RAZ, Eyal
; APPLICANT: LOIS, AUGUSTO
; APPLICANT: TAKAYASHI, KENJI
; TITLE OF INVENTION: AGENTS THAT MODULATE DNA-PK ACTIVITY AND
; TITLE OF INVENTION: METHODS OF USE THEREOF
; FILE REFERENCE: UCAL-168DIV
; CURRENT APPLICATION NUMBER: US/10/233,121A
; CURRENT FILING DATE: 2003-03-11
; PRIOR APPLICATION NUMBER: US 09/848,986
; PRIOR FILING DATE: 2001-05-04
; PRIOR APPLICATION NUMBER: US 60/202,274
; PRIOR FILING DATE: 2000-05-05
; PRIOR APPLICATION NUMBER: US 60/262,321
; PRIOR FILING DATE: 2001-01-17
; NUMBER OF SEQ ID NOS: 21
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 1
; LENGTH: 22
; TYPE: DNA
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: phosphodiester or phosphorothioate oligonucleotide
US-10-233-121A-1

```

```

Query Match          100.0%; Score 22; DB 15; Length 22;
Best Local Similarity 100.0%; Pred. No. 0.36;
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

```

```

QY      1 TGAAGTGAACGTTGAGATGA 22
        |||||
DB      1 TGAAGTGAACGTTGAGATGA 22

```

```

RESULT 27
US-10-219-143-1
; Sequence 1, Application US/10219143
; Publication No. US20030130217A1

```

```
/ GENERAL INFORMATION:
/ APPLICANT: Raz, Eyal
/ APPLICANT: Rachmilewitz, Daniel
/ TITLE OF INVENTION: Method for Treating Inflammatory Bowel
/ FILE REFERENCE: 6510-2020U1
/ CURRENT APPLICATION NUMBER: US/10/219,143
/ PRIOR FILING DATE: 2002-08-13
/ PRIOR APPLICATION NUMBER: US/09/791,500
/ PRIOR FILING DATE: 2001-02-22
/ NUMBER OF SEQ ID NOS: 39
/ SOFTWARE: FaSTSeq for Windows Version 4.0
/ SEQ ID NO 1
/ LENGTH: 22
/ TYPE: DNA
/ ORGANISM: Artificial Sequence
/ FEATURE:
/ OTHER INFORMATION: synthetic polynucleotide sequence
US-10-219-143-1
```

```
Query Match          100.0%; Score 22; DB 15; Length 22;
Best Local Similarity 100.0%; Pred. No. 0.36;
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
```

```
QY      1 TGACTGTGAACGTTGCGAGATGA 22
Db      1 TGACTGTGAACGTTGCGAGATGA 22
```

```
RESULT 28
US-10-214-799-2
/ Sequence 2, Application US/10214799
/ Publication No. US20030133988A1
/ GENERAL INFORMATION:
/ APPLICANT: Fearon, Karen L. and Dina, Dino
/ TITLE OF INVENTION: IMMUNOMODULATORY COMPOSITIONS,
/ FILE REFERENCE: 377882003100
/ CURRENT APPLICATION NUMBER: US/10/214,799
/ CURRENT FILING DATE: 2002-08-07
/ PRIOR APPLICATION NUMBER: US 60/310,743
/ PRIOR FILING DATE: 2001-08-07
/ PRIOR APPLICATION NUMBER: US 60/335,263
/ PRIOR FILING DATE: 2001-10-25
/ NUMBER OF SEQ ID NOS: 2
/ SOFTWARE: FaSTSeq for Windows Version 4.0
/ SEQ ID NO 2
/ LENGTH: 22
/ TYPE: DNA
/ ORGANISM: Artificial Sequence
/ FEATURE:
/ OTHER INFORMATION: Synthetic construct
US-10-214-799-2
```

```
Query Match          100.0%; Score 22; DB 15; Length 22;
Best Local Similarity 100.0%; Pred. No. 0.36;
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
```

```
QY      1 TGACTGTGAACGTTGCGAGATGA 22
Db      1 TGACTGTGAACGTTGCGAGATGA 22
```

```
RESULT 29
US-10-340-275-1
/ Sequence 1, Application US/10340275
/ Publication No. US20030143213A1
/ GENERAL INFORMATION:
/ APPLICANT: Raz, Eyal
/ APPLICANT: Cho, Hearn Jay
/ APPLICANT: Richman, Douglas
/ APPLICANT: Horner, Anthony A.
/ TITLE OF INVENTION: Method for Increasing a Cytotoxic T
```

```
/ TITLE OF INVENTION: Lymphocyte Response in vivo.
/ FILE REFERENCE: UCAL-188DIY
/ CURRENT APPLICATION NUMBER: US/10/340,275
/ PRIOR FILING DATE: 2003-01-10
/ PRIOR APPLICATION NUMBER: 09/820,484
/ PRIOR FILING DATE: 2001-03-28
/ PRIOR APPLICATION NUMBER: US 60/192,537
/ PRIOR FILING DATE: 2000-03-28
/ PRIOR APPLICATION NUMBER: US 60/203,567
/ PRIOR FILING DATE: 2000-05-11
/ PRIOR APPLICATION NUMBER: US 60/215,895
/ PRIOR FILING DATE: 2000-07-05
/ NUMBER OF SEQ ID NOS: 8
/ SOFTWARE: FaSTSeq for Windows Version 4.0
/ SEQ ID NO 1
/ LENGTH: 22
/ TYPE: DNA
/ ORGANISM: Artificial Sequence
/ FEATURE:
/ OTHER INFORMATION: Disulfide-linked phosphorothioate ISS-ODN
/ NAME/KEY: modified base
/ LOCATION: (1)..(1)
/ OTHER INFORMATION: disulfide thymine
US-10-340-275-1
```

```
Query Match          100.0%; Score 22; DB 15; Length 22;
Best Local Similarity 100.0%; Pred. No. 0.36;
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
```

```
QY      1 TGACTGTGAACGTTGCGAGATGA 22
Db      1 TGACTGTGAACGTTGCGAGATGA 22
```

```
RESULT 30
US-10-340-275-3
/ Sequence 3, Application US/10340275
/ Publication No. US20030143213A1
/ GENERAL INFORMATION:
/ APPLICANT: Raz, Eyal
/ APPLICANT: Cho, Hearn Jay
/ APPLICANT: Richman, Douglas
/ APPLICANT: Horner, Anthony A.
/ TITLE OF INVENTION: Method for Increasing a Cytotoxic T
/ TITLE OF INVENTION: Lymphocyte Response in vivo.
/ FILE REFERENCE: UCAL-188DIY
/ CURRENT APPLICATION NUMBER: US/10/340,275
/ CURRENT FILING DATE: 2003-01-10
/ PRIOR APPLICATION NUMBER: 09/820,484
/ PRIOR FILING DATE: 2001-03-28
/ PRIOR APPLICATION NUMBER: US 60/192,537
/ PRIOR FILING DATE: 2000-03-28
/ PRIOR APPLICATION NUMBER: US 60/203,567
/ PRIOR FILING DATE: 2000-05-11
/ PRIOR APPLICATION NUMBER: US 60/215,895
/ PRIOR FILING DATE: 2000-07-05
/ NUMBER OF SEQ ID NOS: 8
/ SOFTWARE: FaSTSeq for Windows Version 4.0
/ SEQ ID NO 3
/ LENGTH: 22
/ TYPE: DNA
/ ORGANISM: Artificial Sequence
/ FEATURE:
/ OTHER INFORMATION: phosphorothioate ISS-ODN
US-10-340-275-3
```

```
Query Match          100.0%; Score 22; DB 15; Length 22;
Best Local Similarity 100.0%; Pred. No. 0.36;
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
```

```
QY      1 TGACTGTGAACGTTGCGAGATGA 22
```



Db 1 TGAAGTGAACGTTGAGATGA 22

RESULT 31

US-10-339-885-1  
Sequence 1, Application US/10339885  
Publication No. US20030147870A1  
GENERAL INFORMATION:  
APPLICANT: Raz, Eyal  
APPLICANT: Cho, Hearn Jay  
APPLICANT: Richman, Douglas  
APPLICANT: Horner, Anthony A.  
TITLE OF INVENTION: Method for increasing a Cytotoxic T  
FILE REFERENCE: UCAL-188CON  
CURRENT APPLICATION NUMBER: US/10/339,885  
PRIOR FILING DATE: 2003-01-10  
PRIOR APPLICATION NUMBER: 09/820,484  
PRIOR FILING DATE: 2001-03-28  
PRIOR APPLICATION NUMBER: US 60/192,537  
PRIOR FILING DATE: 2000-03-28  
PRIOR APPLICATION NUMBER: US 60/203,567  
PRIOR FILING DATE: 2000-05-11  
PRIOR APPLICATION NUMBER: US 60/215,895  
PRIOR FILING DATE: 2000-07-05  
NUMBER OF SEQ ID NOS: 8  
SOFTWARE: FastSeq for Windows Version 4.0  
SEQ ID NO 1  
LENGTH: 22  
TYPE: DNA  
ORGANISM: Artificial Sequence  
FEATURE:  
OTHER INFORMATION: Disulfide-linked phosphorothioate ISS-ODN  
NAME/KEY: modified base  
LOCATION: (1)...(1)  
OTHER INFORMATION: disulfide thymine  
US-10-339-885-1

Query Match 100.0%; Score 22; DB 15; Length 22;

Best Local Similarity 100.0%; Pred. No. 0.36; Mismatches 0; Indels 0; Gaps 0;

Qy 1 TGAAGTGAACGTTGAGATGA 22  
Db 1 TGAAGTGAACGTTGAGATGA 22

RESULT 32

US-10-339-885-3  
Sequence 3, Application US/10339885  
Publication No. US20030147870A1  
GENERAL INFORMATION:  
APPLICANT: Raz, Eyal  
APPLICANT: Cho, Hearn Jay  
APPLICANT: Richman, Douglas  
APPLICANT: Horner, Anthony A.  
TITLE OF INVENTION: Method for increasing a Cytotoxic T  
FILE REFERENCE: UCAL-188CON  
CURRENT APPLICATION NUMBER: US/10/339,885  
PRIOR FILING DATE: 2003-01-10  
PRIOR APPLICATION NUMBER: 09/820,484  
PRIOR FILING DATE: 2001-03-28  
PRIOR APPLICATION NUMBER: US 60/192,537  
PRIOR FILING DATE: 2000-03-28  
PRIOR APPLICATION NUMBER: US 60/203,567  
PRIOR FILING DATE: 2000-05-11  
PRIOR APPLICATION NUMBER: US 60/215,895  
PRIOR FILING DATE: 2000-07-05  
NUMBER OF SEQ ID NOS: 8  
SOFTWARE: FastSeq for Windows Version 4.0  
SEQ ID NO 3

LENGTH: 22  
TYPE: DNA  
ORGANISM: Artificial Sequence  
FEATURE:  
OTHER INFORMATION: phosphorothioate ISS-ODN  
US-10-339-885-3

Query Match 100.0%; Score 22; DB 15; Length 22;  
Best Local Similarity 100.0%; Pred. No. 0.36; Mismatches 0; Indels 0; Gaps 0;

Qy 1 TGAAGTGAACGTTGAGATGA 22  
Db 1 TGAAGTGAACGTTGAGATGA 22

RESULT 33

US-10-176-883-2  
Sequence 2, Application US/10176883  
Publication No. US20030175731A1  
GENERAL INFORMATION:  
APPLICANT: Pearson, Karen  
APPLICANT: Dina, Dino  
APPLICANT: Tuck, Stephen  
TITLE OF INVENTION: CHIMERIC IMMUNOMODULATORY COMPOUNDS AND  
FILE REFERENCE: 377882002000  
CURRENT APPLICATION NUMBER: US/10/176,883  
PRIOR FILING DATE: 2002-06-21  
PRIOR APPLICATION NUMBER: 60/299,883  
PRIOR FILING DATE: 2001-06-21  
PRIOR APPLICATION NUMBER: 60/375,253  
PRIOR FILING DATE: 2002-04-23  
NUMBER OF SEQ ID NOS: 141  
SOFTWARE: FastSeq for Windows Version 4.0  
SEQ ID NO 2  
LENGTH: 22  
TYPE: DNA  
ORGANISM: Artificial Sequence  
FEATURE:  
OTHER INFORMATION: Synthetic construct  
US-10-176-883-2

Query Match 100.0%; Score 22; DB 15; Length 22;  
Best Local Similarity 100.0%; Pred. No. 0.36; Mismatches 0; Indels 0; Gaps 0;

Qy 1 TGAAGTGAACGTTGAGATGA 22  
Db 1 TGAAGTGAACGTTGAGATGA 22

RESULT 34

US-10-176-883-24  
Sequence 24, Application US/10176883  
Publication No. US20030175731A1  
GENERAL INFORMATION:  
APPLICANT: Pearson, Karen  
APPLICANT: Dina, Dino  
APPLICANT: Tuck, Stephen  
TITLE OF INVENTION: CHIMERIC IMMUNOMODULATORY COMPOUNDS AND  
FILE REFERENCE: 377882002000  
CURRENT APPLICATION NUMBER: US/10/176,883  
PRIOR FILING DATE: 2002-06-21  
PRIOR APPLICATION NUMBER: 60/299,883  
PRIOR FILING DATE: 2001-06-21  
PRIOR APPLICATION NUMBER: 60/375,253  
PRIOR FILING DATE: 2002-04-23  
NUMBER OF SEQ ID NOS: 141  
SOFTWARE: FastSeq for Windows Version 4.0  
SEQ ID NO 24  
LENGTH: 22

```
/ TYPE: DNA
/ ORGANISM: Artificial Sequence
/ FEATURE:
/ OTHER INFORMATION: Synthetic construct
US-10-176-883-24
```

```
Query Match          100.0%; Score 22; DB 15; Length 22;
Best Local Similarity 95.5%; Pred. No. 0.36;
Matches 21; Conservative 1; Mismatches 0; Indels 0; Gaps 0;
```

```
QY      1 TGACTGTGAACGTTGCAGATGA 22
        |||
Db       1 TGACTGTGAACGTTGCAGATGA 22
```

```
RESULT 35
US-10-176-883-79
/ Sequence 79, Application US/10176883
/ Publication No. US20030175731A1
/ GENERAL INFORMATION:
/ APPLICANT: Fearon, Karen
/ APPLICANT: Dina, Dino
/ APPLICANT: Tuck, Stephen
/ TITLE OF INVENTION: CHIMERIC IMMUNOMODULATORY COMPOUNDS AND
/ FILE REFERENCE: 377882002000
/ CURRENT APPLICATION NUMBER: US/10/176,883
/ CURRENT FILING DATE: 2002-06-21
/ PRIOR APPLICATION NUMBER: 60/299,883
/ PRIOR FILING DATE: 2001-06-21
/ PRIOR APPLICATION NUMBER: 60/375,253
/ PRIOR FILING DATE: 2002-04-23
/ NUMBER OF SEQ ID NOS: 141
/ SOFTWARE: FastSeq for Windows Version 4.0
/ SEQ ID NO 79
/ LENGTH: 22
/ TYPE: DNA
/ ORGANISM: Artificial Sequence
/ FEATURE:
/ OTHER INFORMATION: Synthetic construct
US-10-176-883-79
```

```
Query Match          100.0%; Score 22; DB 15; Length 22;
Best Local Similarity 95.5%; Pred. No. 0.36;
Matches 21; Conservative 1; Mismatches 0; Indels 0; Gaps 0;
```

```
QY      1 TGACTGTGAACGTTGCAGATGA 22
        |||
Db       1 TGACTGTGAACGTTGCAGATGA 22
```

```
RESULT 36
US-10-176-883-134
/ Sequence 134, Application US/10176883
/ Publication No. US20030175731A1
/ GENERAL INFORMATION:
/ APPLICANT: Fearon, Karen
/ APPLICANT: Dina, Dino
/ APPLICANT: Tuck, Stephen
/ TITLE OF INVENTION: CHIMERIC IMMUNOMODULATORY COMPOUNDS AND
/ FILE REFERENCE: 377882002000
/ CURRENT APPLICATION NUMBER: US/10/176,883
/ CURRENT FILING DATE: 2002-06-21
/ PRIOR APPLICATION NUMBER: 60/299,883
/ PRIOR FILING DATE: 2001-06-21
/ PRIOR APPLICATION NUMBER: 60/375,253
/ PRIOR FILING DATE: 2002-04-23
/ NUMBER OF SEQ ID NOS: 141
/ SOFTWARE: FastSeq for Windows Version 4.0
/ SEQ ID NO 134
/ LENGTH: 22
/ TYPE: DNA
```

```
/ ORGANISM: Artificial Sequence
/ FEATURE:
/ OTHER INFORMATION: Synthetic construct
US-10-176-883-134
```

```
Query Match          100.0%; Score 22; DB 15; Length 22;
Best Local Similarity 100.0%; Pred. No. 0.36;
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
```

```
QY      1 TGACTGTGAACGTTGCAGATGA 22
        |||
Db       1 TGACTGTGAACGTTGCAGATGA 22
```

```
RESULT 37
US-10-412-151-1
/ Sequence 1, Application US/10412151
/ Publication No. US20030176389A1
/ GENERAL INFORMATION:
/ APPLICANT: Raz, Eyal
/ APPLICANT: Rachmilewitz, Daniel
/ TITLE OF INVENTION: Method for Treating Inflammatory Bowel
/ FILE REFERENCE: UCL-202CON
/ CURRENT APPLICATION NUMBER: US/10/412,151
/ CURRENT FILING DATE: 2003-04-11
/ PRIOR APPLICATION NUMBER: 09/791,500
/ PRIOR FILING DATE: 2001-02-22
/ PRIOR APPLICATION NUMBER: 60/184,256
/ PRIOR FILING DATE: 2000-02-23
/ NUMBER OF SEQ ID NOS: 39
/ SOFTWARE: FastSeq for Windows Version 4.0
/ SEQ ID NO 1
/ LENGTH: 22
/ TYPE: DNA
/ ORGANISM: Artificial Sequence
/ FEATURE:
/ OTHER INFORMATION: synthetic polynucleotide sequence
/ OTHER INFORMATION: oligonucleotide primer
/ FEATURE:
/ OTHER INFORMATION: oligonucleotide primer
US-10-412-151-1
```

```
Query Match          100.0%; Score 22; DB 15; Length 22;
Best Local Similarity 100.0%; Pred. No. 0.36;
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
```

```
QY      1 TGACTGTGAACGTTGCAGATGA 22
        |||
Db       1 TGACTGTGAACGTTGCAGATGA 22
```

```
RESULT 38
US-10-177-826-2
/ Sequence 2, Application US/10177826
/ Publication No. US20030199466A1
/ GENERAL INFORMATION:
/ APPLICANT: Fearon, Karen
/ APPLICANT: Dina, Dino
/ APPLICANT: Tuck, Stephen
/ TITLE OF INVENTION: CHIMERIC IMMUNOMODULATORY COMPOUNDS AND
/ FILE REFERENCE: 377882002001
/ CURRENT APPLICATION NUMBER: US/10/177,826
/ CURRENT FILING DATE: 2002-06-21
/ PRIOR APPLICATION NUMBER: 60/299,883
/ PRIOR FILING DATE: 2001-06-21
/ PRIOR APPLICATION NUMBER: 60/375,253
/ PRIOR FILING DATE: 2002-04-23
/ NUMBER OF SEQ ID NOS: 141
/ SOFTWARE: FastSeq for Windows Version 4.0
/ SEQ ID NO 2
/ LENGTH: 22
```

```

; TYPE: DNA
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Synthetic construct
US-10-177-026-2

```

```

; TYPE: DNA
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Synthetic construct
US-10-177-826-2

Query Match      100.0%; Score 22; DB 15; Length 22;
Beet Local Similarity 100.0%; Pred. No. 0.36;
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY      1 TGACTGTGAACGTTGAGATGA 22
        |||||
Db       1 TGACTGTGAACGTTGAGATGA 22

```

RESULT 39  
US-10-177

; Sequence 24, Application US/10177826  
; Publication No. US20030199466A1

```

1  APPLICANT:      Tuck, Stephen
2  TITLE OF INVENTION:  CHIMERIC IMMUNOMODULATORY COMPOUNDS AND
3  TITLE OF INVENTION:  METHODS OF USING THE SAME-II
4  FILE REFERENCE:  377883002001
5  CURRENT APPLICATION NUMBER:  US/10/177,826
6  CURRENT FILING DATE:  2002-06-21
7  PRIOR APPLICATION NUMBER:  60/299,883
8  PRIOR FILING DATE:  2001-06-21
9  PRIOR APPLICATION NUMBER:  60/375,253
10 PRIOR FILING DATE:  2002-04-23
11 NUMBER OF SEQ ID NOS:  141
12 SOFTWARE:  FastSeq for Windows Version 4.0
13 SEQ ID NO 24
14 LENGTH:  22
15 TYPE:  DNA
16 ORGANISM:  Artificial Sequence
17 FEATURE:
18 OTHER INFORMATION:  Synthetic construct
19 US-10-177-826-24

```

Query Match	100.0%	Score 22	DB 15	length 22
Best Local Similarity	95.5%	Pred. No. 0.36		
Matches 21, Conservative	1	Mismatches	0	Gaps 0

Oy	1	TGACTGTGAACGTTCGAGATGA	22
		:	
Db	1	TGACTGTGAACGUTC GAGATGA	22

RESULT 40  
US-10-177-826-79

```

Sequence 79, Application US/10177826
Publication No. US20030199466A1
GENERAL INFORMATION:
APPLICANT: Fearon, Karen
APPLICANT: Dina, Dino
APPLICANT: Tuck, Stephen
TITLE OF INVENTION: CHIMERIC IMMUNOMODULATORY COMPOUNDS AND
FILE REFERENCE: METHODS OF USING THE SAME-II
CURRENT APPLICATION NUMBER: US/10/177,826
CURRENT FILING DATE: 2002-06-21
PRIOR APPLICATION NUMBER: 60/1299,863
PRIOR FILING DATE: 2001-06-21
PRIOR APPLICATION NUMBER: 60/375,253
PRIOR FILING DATE: 2002-04-23
NUMBER OF SEQ ID NOS: 141
SOFTWARE: FastSeq for Windows Version 4.0
SEQ ID NO 79
LENGTH: 22
TYPE: DNA

```

```

; ORGANISM: Artificial Sequence
;
; FEATURE:
;
; OTHER INFORMATION: Synthetic construct
US-10-177-826-79

```

```

Query Match      100.0%; Score 22; DB 15; Length 22;
Best Local Similarity 95.5%; Pred. No. 0.36;
Matches 21; Conservative 1; Mismatches 0; Indels 0; Gaps 0;
QY      1 TGACTGTGAACGCTTCGAGATCA 22
         |||||
Db       1 TGACTGTGAACGCTTCGAGATCA 22

```

Search completed: October 30, 2004, 18:32:20  
Job time : 214 secs

```

Qy      1  TGA CTGTGA ACCTT CGAGATGA 22
         |||||
Db      1  TGA CTGTGA ACCTT CGAGATGA 22

```

Search completed: October 30, 2004, 18:32:20  
Job time : 214 secs

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OM nucleic - nucleic search, using sw model

Run on: October 30, 2004, 10:27:42 ; Search time 1474 Seconds  
(without alignments)  
543.877 Million cell updates/sec

Title: US-09-802-376-1

Perfect score: 22  
Sequence: 1 tgcctcgcacgtcgcagatga 22

Scoring table: IDENTITY NUC  
Gapop 10.0, Gapext 1.0

Searched: 32822875 seqs, 18219865908 residues

Total number of hits satisfying chosen parameters: 65645750

Minimum DB seq length: 0  
Maximum DB seq length: 200000000

Post-processing: Minimum Match 0%  
Maximum Match 100%

Listing first 45 summaries

Database :

EST:\*  
1: gb\_est1:\*  
2: gb\_est2:\*  
3: gb\_hc:\*  
4: gb\_est3:\*  
5: gb\_est4:\*  
6: gb\_est5:\*  
7: gb\_est6:\*  
8: gb\_gse1:\*  
9: gb\_gse2:\*

Pred. No. is the number of results predicted by chance to have a  
score greater than or equal to the score of the result being printed,  
and is derived by analysis of the total score distribution.

#### SUMMARIES

Result No.	Score	Query Match	Length	DB ID	Description
1	18.8	85.5	521	8	BH859011 S5_182b t
2	18.4	83.6	571	4	BM042508 603615795
3	17.8	80.9	492	9	CE751403 tigr-gss-
4	17.8	80.9	561	8	AZ755668 ey02909.x
5	17.8	80.9	867	8	B2558601 pa98401.2
6	17.8	80.9	961	2	BF971856 602240444
7	17.4	79.1	489	8	AZ060178 RPCI-23-4
8	17.4	79.1	530	8	AZ886419 RPCI-23-1
9	17.2	78.2	374	8	AQ245026 HS_2056 B
10	17.2	78.2	408	8	AZ536502 110300_56
11	17.2	78.2	424	2	BE723539 193384 MA
12	17.2	78.2	427	7	CO514528 833d8043G
13	17.2	78.2	463	1	AU083559 AU083559
14	17.2	78.2	479	1	AU083559 AU083559
15	17.2	78.2	513	4	AU083559 AU083559
16	17.2	78.2	515	7	CF447937 EST684282
17	17.2	78.2	519	4	BT796581 H049F08 E
18	17.2	78.2	571	4	BM037907 S114C07 S
19	17.2	78.2	595	9	CC952473 BOICUS2TR
20	17.2	78.2	617	6	CD488495 T10 D04 T
21	17.2	78.2	633	4	BJ808940 BJ808940
22	17.2	78.2	634	7	CR286398 CR286398
23	17.2	78.2	655	6	CD487922 T02_B03 T
24	17.2	78.2	726	5	BM071434 BM071434

C 25	17.2	78.2	767	6	CB685128 OSJNE15E
C 26	17.2	78.2	814	6	CB644373 OSJNEB051
C 27	17.2	78.2	842	6	CB685127 OSJNEB15E
C 28	17.2	78.2	852	9	CL670249 PRI0161C
C 29	17.2	78.2	882	7	CF378583 AGENCOURT
C 30	17.2	78.2	972	9	CNS05PD9 AL347814 Tetradon
C 31	17.2	78.2	1028	6	CA139194 SCEORT209
C 32	17.2	78.2	1852	9	CL487297 SAIL_44_G
C 33	17.2	78.2	2481	3	AK037625 Mus muscu
C 34	16.8	76.4	105	1	AA094019 c11619.be
C 35	16.8	76.4	496	9	CE537167 tigr-gss-
C 36	16.8	76.4	523	8	AZ483488 1M0309M12
C 37	16.8	76.4	526	8	AZ501799 1M0340J17
C 38	16.8	76.4	628	6	CA380211 659460 NC
C 39	16.8	76.4	645	6	CB576172 AMGNNUC:C
C 40	16.8	76.4	654	7	CO079691 GR_Ba42K
C 41	16.8	76.4	678	6	CA373611 647793 NC
C 42	16.8	76.4	681	1	AV732648 AV732648
C 43	16.8	76.4	705	2	AW916461 EST347765
C 44	16.8	76.4	715	7	CK841471 UI-R-BjOp
C 45	16.8	76.4	723	6	CB567509 AGENCOURT

#### ALIGNMENTS

RESULT 1  
LOCUS BH859011 521 bp DNA linear GSS 13-NOV-2002  
DEFINITION S5\_182b.t7 Mouse Retroviral Tagged Cancer Gene Database Mus  
musculus genomic clone S5\_182b, genomic survey sequence.

ACCESSION BH859011 GI:21709832

VERSION BH859011.1

KEYWORDS GSS.

SOURCE Mus musculus (house mouse)

ORGANISM Mus musculus

REFERENCE Suzuki, T., Shen, H., Akagi, K., Moore, H.C., Malley, J.D., Naitman, D.Q.,

AUTHORS Jenkine, N.A. and Copeland, N.G.

TITLE New genes involved in cancer identified by retroviral tagging

JOURNAL Nat. Genet. 32 (1), 166-174 (2002)

MEDLINE 22194816

PUBMED 12185365

COMMENT Contact: Copeland NG

Mouse Cancer Genetics Program

National Cancer Institute

Bldg. 539, Rm. 229, Frederick, MD 21702-1201, USA

Tel: 301 846 1260

Fax: 301 846 6666

Email: copeland@ncifcrf.gov

Classes: PCR with specific primers.

Location/Qualifiers

1..521

/organism="Mus musculus"

/mol\_type="genomic DNA"

/db\_xref="taxon:10090"

/clone="S5\_182b"

/sex="female"

/tissue\_type="leukemia"

/clone\_lib="Mouse Retroviral Tagged Cancer Gene Database"

/note="Inverse PCR method

(http://genome2.ncifcrf.gov/RTCD)"

#### ORIGIN

Query Match

Best Local Similarity 90.9%; Score 18.8; DB 8; Length 521;

Matches 20; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

1 TGACTGTGAACGTTGAGATGA 22

116 TGACTGTGAACATGCGAGATGA 137

RESULT 2  
LOCUS BM042508 571 bp mRNA linear EST 07-NOV-2001  
DEFINITION 603615795T1 NIH\_MGC\_112 Homo sapiens cDNA clone IMAGE:5420734 3',  
mRNA sequence.  
ACCESSION BM042508  
VERSION BM042508.1 GI:16771788  
KEYWORDS EST.  
SOURCE Homo sapiens (human)  
ORGANISM Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;  
Mammalia; Eutheria; Primates; Catarrhini; Homiidae; Homo.  
REFERENCE NIH-MGC http://mgi.nci.nih.gov/  
1 (bases 1 to 571)  
TITLE National Institutes of Health, Mammalian Gene Collection (MGC)  
JOURNAL Unpublished (1999)  
COMMENT Contact: Robert Strausberg, Ph.D.  
Email: cgabs-r@mail.nih.gov  
Tissue Procurement: DCTD/DTF  
CDNA Library Preparation: Ling Hong/Rubin Laboratory  
CDNA Library Arrayed by: The I.M.A.G.E. Consortium (LLNL)  
DNA Sequencing by: Incyte Genomics, Inc.  
Clone distribution: MGC clone distribution information can be  
found through the I.M.A.G.E. Consortium/LLNL at:  
http://image.llnl.gov  
Plate: LLCM1875 row: m column: 23  
High quality sequence start: 44  
High quality sequence stop: 411.  
Location/Qualifiers  
1..571  
/organism="Homo sapiens"  
/mol\_type="mRNA"  
/db\_xref="taxon:9606"  
/clone="IMAGE:5420734"  
/tissue\_type="melanotic melanoma, cell line"  
/lab\_host="DH10B (phage-resistant)"  
/clone\_lib="NIH MGC 112"  
/note="Organ: skin; Vector: pOT87; Site 1: XhoI; Site 2:  
EcoRI; cDNA made by oligo-dT priming. Directionally cloned  
into EcoRI/XhoI sites using the following 5' adaptor:  
GGACGAG(G). Library constructed by Ling Hong in the  
Laboratory of Gerald M. Rubin (University of California,  
Berkeley) using ZAP-cDNA synthesis kit (Stratagene) and  
Superscript II RT (Life Technologies). Note: this is a  
NIH\_MGC Library."

ORIGIN  
Query Match 83.6%; Score 18.4; DB 4; Length 571;  
Best Local Similarity 95.0%; Pred. No. 1.4e+02;  
Matches 19; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

QY 1 TGACTGTGAACGTTCCAGAT 20  
|||||  
Db 504 TGACTGTGAACGTTCTAGAT 523  
|||||

RESULT 3  
LOCUS CE751403 492 bp DNA linear GSS 30-SEP-2003  
DEFINITION tigr-gss-dog-17000369615.400 Dog library Canis familiaris genomic,  
genomic survey sequence.  
ACCESSION CE751403  
VERSION CE751403.1 GI:37092020  
KEYWORDS GSS.  
SOURCE Canis familiaris (dog)  
ORGANISM Canis familiaris  
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;  
Mammalia; Eutheria; Carnivora; Fissipedia; Canidae; Canis.  
REFERENCE 1 (bases 1 to 492)  
Kirkness, E.F., Bafna, V., Halpern, A.L., Levy, S., Remington, K.,  
Rusch, D.B., DeCher, A.L., Pop, M., Wang, W., Fraser, C.M. and

Venter, J.C.  
TITLE The dog genome: survey sequencing and comparative analysis  
JOURNAL Science 301 (5641), 1898-1903 (2003)  
MEDLINE 22875432  
PubMed 14512627  
COMMENT Contact: Kirkness EF  
The Institute for Genomic Research  
Department of Eukaryotic Genomics, TIGR, 9712 Medical Center Drive,  
Rockville, MD 20850, USA  
Tel: 301-838-0200  
Fax: 301-838-0208  
Email: ekirkness@tigr.org  
Class: shotgun.  
Location/Qualifiers  
1..492  
/organism="Canis familiaris"  
/mol\_type="genomic DNA"  
/strain="Standard Poodle"  
/db\_xref="taxon:9615"  
/clone\_lib="Dog Library"  
/note="Site 1: BstXI; Libraries were prepared from  
peripheral blood"

ORIGIN  
Query Match 80.9%; Score 17.8; DB 9; Length 492;  
Best Local Similarity 90.5%; Pred. No. 2.9e+02;  
Matches 19; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

QY 1 TGACTGTGAACGTTCCAGATG 21  
|||||  
Db 36 TGACTGTGAACGTTCCAGATG 16  
|||||

RESULT 4  
LOCUS AZ755668 561 bp DNA linear GSS 01-MAR-2001  
DEFINITION ev02g09.x1 PAX3 CASTING Library 'ev' Homo sapiens genomic clone  
ev02g09 random, genomic survey sequence.  
ACCESSION AZ755668  
VERSION AZ755668.1 GI:13175090  
KEYWORDS GSS.  
SOURCE Homo sapiens (human)  
ORGANISM Homo sapiens  
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;  
Mammalia; Eutheria; Primates; Catarrhini; Homiidae; Homo.  
REFERENCE 1 (bases 1 to 561)  
Barber, T.D., Barber, M.C., Tomescu, O., Barr, F.G., Ruben, S. and  
Friedman, T.B.  
TITLE Identification of Target Genes Regulated by PAX3 and PAX3-FKHR in  
Embryogenesis and Alveolar Rhabdomyosarcoma  
JOURNAL Genomics 79 (3), 278-284 (2002)  
MEDLINE 21853298  
PubMed 11863357  
COMMENT Contact: Friedman TB  
Laboratory of Molecular Genetics  
National Institute on Deafness and Other Communication Disorders,  
National Institutes of Health  
5 Research Court, Room 2A-15, Rockville, MD 20850, USA  
Tel: 301 402 7580  
Fax: 301 496 7882  
Email: friedman@nidcd.nih.gov  
Plate: 02 row: 9 column: 09  
Seq primer: -21M13 forward primer (ABI)  
Class: random plasmid subclone.  
Location/Qualifiers  
1..561  
/organism="Homo sapiens"  
/mol\_type="genomic DNA"  
/db\_xref="taxon:9606"  
/clone="ev02g09"  
/sex="Male"  
/lab\_host="DH10B"  
/clone\_lib="PAX3 CASTING Library 'ev'"

/note="Vector: pGEM-T Easy; Human genomic DNA was partially digested with Sau3aI, ligated to ds linkers, and enriched for binding to human PAX3d0+ protein using a Whole Genome PCR-based strategy. DNA fragments containing putative PAX3d0+ binding sites were amplified by PCR and cloned into pGEM-T Easy (Promega). The ligation products were transformed into DH10B electrocompetent cells (Life Technologies)."

## ORIGIN

Query Match 80.9%; Score 17.8; DB 8; Length 561;  
Best Local Similarity 90.5%; Pred. No. 2.9e+02;  
Matches 19; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

QY 1 TGACTGTGAACGTTCCGAGATG 21  
|||||  
Db 461 TGACTGTGAACGTTCCGAGATG 441

RESULT 5 867 bp DNA linear GSS 17-DEC-2002  
B2558601  
LOCUS pa98401\_292.s1 pac92-164 Pseudomonas aeruginosa genomic clone  
DEFINITION pa98401\_292, genomic survey sequence.  
ACCESSION B2558601  
VERSION B2558601.1 GI:27173329  
KEYWORDS GSS.  
SOURCE Pseudomonas aeruginosa  
ORGANISM Pseudomonas aeruginosa  
Bacteria; Proteobacteria; Gammaproteobacteria; Pseudomonadales;  
Pseudomonadaceae; Pseudomonas.  
1 (bases 1 to 867)

REFERENCE 1 Spence, D.H., Raymond, C.K., Smith, E.E., Sims, E.E., Hastings, M.,  
Burns, J.L., Kaul, R. and Olsen, M.V.  
Whole-Genome-Sequence Variation among multiple isolates of  
Pseudomonas aeruginosa library  
J. Bacteriol. (2002) In press  
CONTACT: Chris K. Raymond  
Genome Center  
University of Washington  
Box 352145, Seattle, WA 98105-2145, USA  
Tel: 2062216954  
Fax: 2066857244  
Email: craymond@u.washington.edu  
Class: shotgun.

## JOURNAL

## COMMENT

FEATURES  
source Location/Qualifiers  
1..867  
/organism="Pseudomonas aeruginosa"  
/mol\_type="genomic DNA"  
/db\_xref="taxon:287"  
/clone="pa98401\_292"  
/clone\_1b="pac92-164"  
/note="clinical isolate 2-164 whole genomic shotgun  
library."

## ORIGIN

Query Match 80.9%; Score 17.8; DB 8; Length 867;  
Best Local Similarity 90.5%; Pred. No. 3.2e+02;  
Matches 19; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

QY 2 GACTGTGAACGTTCCGAGATG 22  
|||||  
Db 724 GACTGTGAACGTTCCGAGATG 744

RESULT 6 961 bp mRNA linear EST 22-JAN-2001  
BF971856  
LOCUS B0224044F1 NIH\_MGC\_46 Homo sapiens cDNA clone IMAGE:4328890 5',  
DEFINITION mRNA sequence.  
ACCESSION BF971856  
VERSION BF971856.1 GI:12339071

KEYWORDS EST.  
SOURCE Homo sapiens (human)  
ORGANISM Homo sapiens  
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;  
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.

REFERENCE 1 (bases 1 to 961)  
AUTHORS NIH-MGC <http://mgs.nci.nih.gov/>.  
TITLE National Institutes of Health, Mammalian Gene Collection (MGC)  
JOURNAL Unpublished (1999)  
COMMENT Contact: Robert Strausberg, Ph.D.  
Email: [cgabbs-remail.nih.gov](mailto:cgabbs-remail.nih.gov)  
Tissue Procurement: ATCC  
CDNA Library Preparation: Ling Hong/Rubin Laboratory  
CDNA Library Arrayed by: The I.M.A.G.E. Consortium (LLNL)  
DNA Sequencing by: Incyte Genomics, Inc.  
Clone distribution: MGC clone distribution information can be  
found through the I.M.A.G.E. Consortium/LLNL at:  
<http://image.llnl.gov>  
plate: L1CM1189 row: h column: 11  
High quality sequence stop: 555.  
Location/Qualifiers  
1..961  
/organism="Homo sapiens"  
/mol\_type="mRNA"  
/db\_xref="taxon:9606"  
/clone="IMAGE:4328890"  
/tissue\_type="leiomyosarcoma cell line"  
/lab\_host="DH10B (phage-resistant)"  
/clone\_1b="NIH\_MGC\_46"  
/note="Organ: uterus; Vector: pOTB7; Site\_1: XhoI; Site\_2:  
EcoRI; CDNA made by oligo-dT priming. Directionally cloned  
into EcoRI/XhoI sites using the following 5' adaptor:  
GGCAGGAG(G). Size-selected >500bp for average insert size  
1.8kb. Library constructed by Ling Hong in the laboratory  
of Gerald M. Rubin (University of California, Berkeley)  
using ZAP-CDNA synthesis kit (Stratagene) and Superscript  
II RT (Life Technologies). Note: this is a NIH\_MGC  
Library."

## FEATURES

## source

QY 2 GACTGTGAACGTTCCGAGATG 22  
|||||  
Db 650 GACTGTGAACGTTCCGAGATG 670

## ORIGIN

Query Match 80.9%; Score 17.8; DB 2; Length 961;  
Best Local Similarity 90.5%; Pred. No. 3.2e+02;  
Matches 19; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

RESULT 7 489 bp DNA linear GSS 30-MAR-2000  
AZ060178/c  
LOCUS RPCI-23-405E23.TV RPCI-23 Mus musculus genomic clone  
DEFINITION RPCI-23-405E23, genomic survey sequence.  
ACCESSION AZ060178  
VERSION AZ060178.1 GI:7351427  
KEYWORDS GSS.  
SOURCE Mus musculus (house mouse)  
ORGANISM Mus musculus  
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;  
Mammalia; Eutheria; Rodentia; Sclerogamathi; Muridae; Murinae; Mus.

REFERENCE 1 (bases 1 to 489)  
AUTHORS Zhao, S., Niernan, W., Feldblum, T., Malek, J., Shatman, S.,  
Akintet, B., Devins, M., McGam, S., Tsegaye, G., Geer, K., Krol, M., de  
Jong, P. and Fraser, C.M.  
Mouse BAC End Sequences from library RPCI-23  
Unpublished (1999)  
Other GSSs: RPCI-23-405E23.TV  
CONTACT: Shaying Zhao  
Department of Eukaryotic Genomics  
The Institute for Genomic Research  
9712 Medical Center Dr., Rockville, MD 20850, USA  
Tel: 301 838 0200

Fax: 301 838 0208  
Email: szhao@tigr.org  
Clones are derived from the mouse BAC library RPCI-23. For BAC library availability, please contact Pieter de Jong (pieterdejong.med.buffalo.edu). Clones may be purchased from BACPAC Resources (<http://bacpac.med.buffalo.edu/orderingframe.htm>) or from Resea ch Genetics ([info@resgen.com](mailto:info@resgen.com)). BAC end page: [http://www.tigr.org/tdb/bac\\_ends/mouse/bac\\_end\\_intro.html](http://www.tigr.org/tdb/bac_ends/mouse/bac_end_intro.html)  
Plate: 405 row: E column: 23  
Seq primer: SP6  
Class: BAC ends.

#### FEATURES

source

Location/Qualifiers  
1..489  
/organism="Mus musculus"  
/mol\_type="genomic DNA"  
/strain="C57BL/6J"  
/db\_xref="taxon:10090"  
/clone="RPCI-23-405E23"  
/sex="Female"  
/lab\_host="DH10B"  
/clone\_1ib="RPCI-23"  
/note="Organ: Kidney/Brain; Vector: pBACe3.6; Site 1: EcoRI; Site 2: EcoRI; Female C57BL/6J mouse kidney and/or brain genomic DNA was isolated and partially digested with a combination of EcoRI and EcoRI Methylase. Size selected DNA was cloned into the pBACe3.6 vector at the EcoRI sites. The ligation products were transformed into DH10B electrocompetent cells (BRL Life Technologies)."

#### ORIGIN

Query Match 79.1%; Score 17.4; DB 8; Length 489;  
Best Local Similarity 94.7%; Pred. No. 4.7e+02;  
Matches 18; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

QY 1 TGACTGTGAACCTTCGAGA 19  
|||||  
Db 170 TGACTGTGAACCTTCGAGA 152

RESULT 8 530 bp DNA linear GSS 05-MAR-2001  
LOCUS AZ886419/c  
DEFINITION RPCI-23-18216.TJ RPCI-23 Mus musculus genomic clone RPCI-23-18216,  
genomic survey sequence.  
ACCESSION AZ886419  
VERSION AZ886419.1 GI:13205364  
KEYWORDS GSS.  
SOURCE Mus musculus (house mouse)  
ORGANISM Mus musculus  
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.  
1 (bases 1 to 530)  
Zhao, S., Nieman, W., Felblyum, T., Malek, J., Shatsman, S., Akincet, B., Levine, M., McGann, S., Tsegaye, G., Geer, K., Krol, M., de Jong, P. and Fraser, C.M.  
Mouse BAC End Sequences from Library RPCI-23  
Unpublished (1999)  
Other GSSs: RPCI-23-18216.TJ  
Contact: Shaying Zhao  
Department of Eukaryotic Genomics  
The Institute for Genomic Research  
9712 Medical Center Dr., Rockville, MD 20850, USA  
Tel: 301 838 0200  
Fax: 301 838 0208  
Email: szhao@tigr.org  
Clones are derived from the mouse BAC library RPCI-23. For BAC library availability, please contact Pieter de Jong (pieterdejong.med.buffalo.edu). Clones may be purchased from BACPAC Resources ([http://www.tigr.org/tdb/bac\\_ends/mouse/bac\\_end\\_intro.html](http://www.tigr.org/tdb/bac_ends/mouse/bac_end_intro.html)) or from Resea ch Genetics ([info@resgen.com](mailto:info@resgen.com)). BAC end page: [http://www.tigr.org/tdb/bac\\_ends/mouse/bac\\_end\\_intro.html](http://www.tigr.org/tdb/bac_ends/mouse/bac_end_intro.html)  
Plate: 182 row: I column: 6  
Seq primer: SP6  
Class: BAC ends.

#### FEATURES

source

Location/Qualifiers  
1..530  
/organism="Mus musculus"  
/mol\_type="genomic DNA"  
/strain="C57BL/6J"  
/db\_xref="taxon:10090"  
/clone="RPCI-23-18216"  
/sex="Female"  
/lab\_host="DH10B"  
/clone\_1ib="RPCI-23"  
/note="Organ: Kidney/Brain; Vector: pBACe3.6; Site 1: EcoRI; Site 2: EcoRI; Female C57BL/6J mouse kidney and/or brain genomic DNA was isolated and partially digested with a combination of EcoRI and EcoRI Methylase. Size selected DNA was cloned into the pBACe3.6 vector at the EcoRI sites. The ligation products were transformed into DH10B electrocompetent cells (BRL Life Technologies)."

#### ORIGIN

Query Match 79.1%; Score 17.4; DB 8; Length 530;  
Best Local Similarity 94.7%; Pred. No. 4.7e+02;  
Matches 18; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

QY 1 TGACTGTGAACCTTCGAGA 19  
|||||  
Db 189 TGACTGTGAACCTTCGAGA 171

#### RESULT 9

LOCUS AQ245026 374 bp DNA linear GSS 03-OCT-1998  
DEFINITION HS-2056\_B1\_E03\_MR CIT Approved Human Genomic Sperm Library D Homo sapiens genomic clone Plate=2056 Col=5 Row=J, genomic survey sequence.

ACCESSION AQ245026  
VERSION AQ245026.1 GI:3691600  
KEYWORDS GSS.  
SOURCE Homo sapiens (human)  
ORGANISM Homo sapiens  
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Primates; Catarrhini; Homidae; Homo.  
1 (bases 1 to 374)  
Mahairas, G.G., Wallace, J.C., Smith, K., Swartzell, S., Holzman, T., Keller, A., Shaker, R., Furlong, J., Young, J., Zhao, S., Adams, W.D. and Hood, L.

REFERENCE 1  
AUTHORS Mahairas, G.G., Wallace, J.C., Smith, K., Swartzell, S., Holzman, T., Keller, A., Shaker, R., Furlong, J., Young, J., Zhao, S., Adams, W.D. and Hood, L.  
Sequence-tagged connectors: A sequence approach to mapping and scanning the human genome  
Proc. Natl. Acad. Sci. U.S.A. 96 (17), 9739-9744 (1999)  
JOURNAL MEDLINE  
PUBMED 99380589  
COMMENT Contact: Mahairas GG, Wallace JC, Hood L  
High Throughput Sequencing Center  
University of Washington  
401 Queen Anne Avenue North, Seattle, WA 98109, USA  
Tel: (206) 616-3618  
Fax: (206) 616-3887  
Email: jwallace@u.washington.edu  
Sequence Tagged Connector  
Plate: 2056 row: J column: 5  
Class: BAC ends  
High quality sequence stop: 374.

#### FEATURES

source

Location/Qualifiers  
1..374  
/organism="Homo sapiens"  
/mol\_type="genomic DNA"  
/db\_xref="taxon:9606"  
/clone="Plate=2056 Col=5 Row=J"  
/sex="male"  
/note="Organ: sperm; Vector: pBelobaC11; BAC Clones in E-Coli DH10B"

#### ORIGIN



Query Match 78.2%; Score 17.2; DB 8; Length 374;  
 Best Local Similarity 86.4%; Pred. No. 5.6e+02;  
 Matches 19; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

QY 1 TGACTGTGAACGTTGAGATGA 22  
 |||||  
 Db 207 TGACTGTGAACGTTGAGATGA 228

RESULT 10  
 AZ536502 408 bp DNA linear GSS 03-NOV-2000  
 LOCUS 110300.96 Planococcus 11iacinus DNA Planococcus 11iacinus genomic,  
 DEFINITION genomic survey sequence.  
 ACCESSION AZ536502  
 VERSION AZ536502.1 GI:11093449  
 KEYWORDS GSS.  
 SOURCE Planococcus 11iacinus (11lac mealybug)  
 ORGANISM Planococcus 11iacinus  
 Eukaryota; Metazoa; Arthropoda; Hexapoda; Insecta; Pterygota;  
 Neoptera; Paraneoptera; Hemiptera; Sternorrhyncha; Aphidiformes;  
 Coccoidea; Pseudococcidae; Planococcus.  
 1 (bases 1 to 408)  
 Mohan,K.N. and Chandra,H.S.  
 Mealybug shotgun sequencing  
 Unpublished (2000)  
 CONTACT: Mohan KN  
 Microbiology and Cell Biology  
 Indian Institute of Science  
 Sir C.V. Raman Avenue, Bangalore, Karnataka 560012, India  
 Email: mohan@mcbl.iisc.ernet.in  
 Class: shotgun.  
 Location/Qualifiers  
 1..408  
 /organism="Planococcus 11iacinus"  
 /mol\_type="genomic DNA"  
 /db\_xref="taxon:40930"  
 /clone\_lib="Planococcus 11iacinus DNA"

REFERENCE  
 AUTHORS Mohan,K.N. and Chandra,H.S.  
 TITLE Mealybug shotgun sequencing  
 JOURNAL Unpublished (2000)  
 COMMENT CONTACT: Mohan KN  
 Microbiology and Cell Biology  
 Indian Institute of Science  
 Sir C.V. Raman Avenue, Bangalore, Karnataka 560012, India  
 Email: mohan@mcbl.iisc.ernet.in  
 Class: shotgun.  
 Location/Qualifiers

FEATURES  
 source 1..408  
 /organism="Planococcus 11iacinus"  
 /mol\_type="genomic DNA"  
 /db\_xref="taxon:40930"  
 /clone\_lib="Planococcus 11iacinus DNA"

ORIGIN

Query Match 78.2%; Score 17.2; DB 8; Length 408;  
 Best Local Similarity 86.4%; Pred. No. 5.7e+02;  
 Matches 19; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

QY 1 TGACTGTGAACGTTGAGATGA 22  
 |||||  
 Db 251 TGACTGTGAACGTTGAGATGA 272

RESULT 11  
 BE723539 424 bp mRNA linear EST 25-APR-2001  
 LOCUS 193384 MARCH 4BOV Bos taurus cDNA 5', mRNA sequence.  
 DEFINITION BE723539  
 ACCESSION BE723539  
 VERSION BE723539.1 GI:10124826  
 KEYWORDS EST.  
 SOURCE Bos taurus (cow)  
 ORGANISM Bos taurus  
 Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;  
 Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovidae;  
 Bovinae; Bos.  
 1 (bases 1 to 424)  
 Smith,T.P.L., Grose,W.M., Freking,B.A., Roberts,A.J., Stone,R.T.,  
 Casas,E., Wray,J.E., White,J., Cho,J., Fahrenkrug,S.C.,  
 Bennett,G.L., Heaton,M.P., Laegreid,W.W., Rohrer,G.A.,  
 Chitko-Mckown,C.G., Pettea,G., Holt,I., Karayancheva,S., Liang,F.,  
 Quackenbush,J. and Keefe,J.W.  
 Sequence evaluation of four pooled-tissue normalized bovine cDNA  
 libraries and construction of a gene index for cattle  
 Genome Res. 11 (4), 626-630 (2001)

REFERENCE  
 AUTHORS Smith,T.P.L., Grose,W.M., Freking,B.A., Roberts,A.J., Stone,R.T.,  
 Casas,E., Wray,J.E., White,J., Cho,J., Fahrenkrug,S.C.,  
 Bennett,G.L., Heaton,M.P., Laegreid,W.W., Rohrer,G.A.,  
 Chitko-Mckown,C.G., Pettea,G., Holt,I., Karayancheva,S., Liang,F.,  
 Quackenbush,J. and Keefe,J.W.  
 Sequence evaluation of four pooled-tissue normalized bovine cDNA  
 libraries and construction of a gene index for cattle  
 Genome Res. 11 (4), 626-630 (2001)

JOURNAL MEDLINE  
 21180013  
 MEDLINE 1182978  
 COMMENT Contact: Smith TPL

USDA, ARS, US Meat Animal Research Center  
 PO Box 166, Clay Center, NE 68933-0166, USA  
 Tel: 402 762 4366  
 Fax: 402 762 4390  
 Email: smith@email.marc.usda.gov  
 Single pass sequencing. Bases called and alt trimmed with phred  
 v0.980904.e. Vector identified by cross\_match with the -minscore 18  
 and -minmatch 12 options.

PCR Primers  
 FORWARD: AGGAACAGCTATGACCAT  
 BACKWARD: GTTTCGAGTCAGACAG  
 Plate: 92 row: B column: 14  
 Seq primer: ATTTCGTGACCTATGAC.  
 Location/Qualifiers  
 1..424  
 /organism="Bos taurus"  
 /mol\_type="mRNA"  
 /db\_xref="taxon:9913"  
 /clone\_lib="pooled"  
 /lab\_host="DH10B"  
 /clone\_lib="MARCH 4BOV"  
 /note="Vector: pCMV SPORT6; Site 1: NotI; Site 2: SalI;  
 library made from pooled tissue from day 20 and day 40  
 embryos."

## ORIGIN

Query Match 78.2%; Score 17.2; DB 2; Length 424;  
 Best Local Similarity 86.4%; Pred. No. 5.8e+02;  
 Matches 19; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

QY 1 TGACTGTGAACGTTGAGATGA 22  
 |||||  
 Db 268 TGACTGTGAACGTTGAGATGA 289

RESULT 12  
 COS14528 427 bp mRNA linear EST 15-JUL-2004  
 LOCUS 813SGA3G0800066\_327716 Glandular trichomes Medicago sativa cDNA,  
 DEFINITION mRNA sequence.  
 ACCESSION COS14528  
 VERSION COS14528.1 GI:50319402  
 KEYWORDS EST.  
 SOURCE Medicago sativa  
 ORGANISM Medicago sativa  
 Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;  
 Spermatophyta; Magnoliophyta; eudicotyledons; core eudicots;  
 rosids; eurosids I; Fabales; Fabaceae; Papilionoideae; Trifoliaceae;  
 Medicago.  
 1 (bases 1 to 427)  
 Aziz,N., May,G.D., Paiva,N.L. and Dixon,R.A.

REFERENCE  
 AUTHORS Aziz,N., May,G.D., Paiva,N.L. and Dixon,R.A.  
 TITLE Alfalfa trichome Expressed Sequence Tags from the Samuel Roberts  
 Noble Foundation - Center for Medicago Genomics Research  
 JOURNAL Unpublished (2004)  
 COMMENT Contact: May GD  
 Plant Biology Division  
 The Samuel Roberts Noble Foundation  
 2510 Sam Noble Parkway, Ardmore, OK 73402, USA  
 Tel: 580 224 6650  
 Fax: 580 224 6692  
 Email: gdmay@noble.org.  
 Location/Qualifiers  
 1..427  
 /organism="Medicago sativa"  
 /mol\_type="mRNA"  
 /db\_xref="taxon:3879"  
 /clone\_lib="pooled"  
 /lab\_host="DH10B"  
 /note="Vector: pCMV SPORT6; Site 1: NotI; Site 2: SalI;  
 library made from pooled tissue from day 20 and day 40  
 embryos."

REFERENCE  
 AUTHORS Aziz,N., May,G.D., Paiva,N.L. and Dixon,R.A.  
 TITLE Alfalfa trichome Expressed Sequence Tags from the Samuel Roberts  
 Noble Foundation - Center for Medicago Genomics Research  
 JOURNAL Unpublished (2004)  
 COMMENT Contact: May GD  
 Plant Biology Division  
 The Samuel Roberts Noble Foundation  
 2510 Sam Noble Parkway, Ardmore, OK 73402, USA  
 Tel: 580 224 6650  
 Fax: 580 224 6692  
 Email: gdmay@noble.org.  
 Location/Qualifiers  
 1..427  
 /organism="Medicago sativa"  
 /mol\_type="mRNA"  
 /db\_xref="taxon:3879"  
 /clone\_lib="pooled"  
 /lab\_host="DH10B"  
 /note="Vector: pCMV SPORT6; Site 1: NotI; Site 2: SalI;  
 library made from pooled tissue from day 20 and day 40  
 embryos."

were grown in Metromix 350 and fertilized with MiracleGro as needed. They were cut back closely to encourage the emergence of vigorous shoots. Trichomes were isolated from stems, approximately 8-12 inches long, clipped from plants 2-3 inches above the crown. With minimal handling of the stem, the apical bud, leaves and nodes were discarded, and the trichomes isolated from the internode segments."

## ORIGIN

Query Match 78.2%; Score 17.2; DB 7; Length 427;  
Best Local Similarity 86.4%; Pred. No. 5.9e+02;  
Matches 19; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

QY 1 TGACTGTGAACGTTTCAGATGA 22  
|||||  
198 TGATGTGAACGTTTCAGATGA 177

## RESULT 13

AU083559 463 bp mRNA linear EST 02-APR-2002  
LOCUS AU083559  
DEFINITION CDNA clone S14862, mRNA sequence.

ACCESSION AU083559 GI:7274015  
VERSION AU083559  
KEYWORDS EST.  
SOURCE Oryza sativa (japonica cultivar-group)  
ORGANISM Oryza sativa (japonica cultivar-group)

REFERENCE 1 (bases 1 to 463)  
AUTHORS Sasaki, T. and Yamamoto, K.  
TITLE Rice cDNA from green shoot (2000)  
JOURNAL Unpublished (2000)  
COMMENT Contact: Takuji Sasaki  
National Institute of Agrobiological Resources  
Rice Genome Research Program, Kannondai 2-1-2, Tsukuba, Ibaraki  
305-8602, Japan  
Tel: 81-298-38-7441  
Fax: 81-298-38-7468  
Email: tsasaki@abrr.affrc.go.jp, URL: http://rpg.dna.affrc.go.jp/  
PROJECT = 'RGP'.  
Location/Qualifiers

1. .463  
/organism="Oryza sativa (japonica cultivar-group)"  
/mol\_type="mRNA"  
/cultivar="Nipponbare"  
/db\_xref="taxon:39947"  
/clone="S14862"  
/clone\_1ib="Rice green shoot"  
/note="Green shoot (8 days old)"

FEATURES  
source

## ORIGIN

Query Match 78.2%; Score 17.2; DB 1; Length 463;  
Best Local Similarity 86.4%; Pred. No. 5.9e+02;  
Matches 19; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

QY 1 TGACTGTGAACGTTTCAGATGA 22  
|||||  
151 TGATGTGAATGTTAGAGATGA 172

## RESULT 14

AU089685 479 bp mRNA linear EST 02-APR-2002  
LOCUS AU089685  
DEFINITION clone C40060, mRNA sequence.

ACCESSION AU089685  
VERSION AU089685  
KEYWORDS EST.  
SOURCE Oryza sativa (japonica cultivar-group)  
ORGANISM Oryza sativa (japonica cultivar-group)

Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta; Spermatophyta; Magnoliophyta; Liliopsida; Poales; Poaceae; Ehrhartoideae; Oryzaceae; Oryza.

REFERENCE 1 (bases 1 to 479)  
AUTHORS Sasaki, T. and Yamamoto, K.  
TITLE Rice cDNA from callus (2000)  
JOURNAL Unpublished (2000)  
COMMENT Contact: Takuji Sasaki  
National Institute of Agrobiological Resources  
Rice Genome Research Program, Kannondai 2-1-2, Tsukuba, Ibaraki  
305-8602, Japan  
Tel: 81-298-38-7441  
Fax: 81-298-38-7468  
Email: tsasaki@abrr.affrc.go.jp, URL: http://rpg.dna.affrc.go.jp/  
PROJECT = 'RGP'.  
Location/Qualifiers

1. 479  
/organism="Oryza sativa (japonica cultivar-group)"  
/mol\_type="mRNA"  
/cultivar="Nipponbare"  
/db\_xref="taxon:39947"  
/clone="C40060"  
/clone\_1ib="Rice callus"  
/note="Vector: pBluescript II SK+; Site 1: SalI; Site 2: NotI; cDNA prepared from rice callus mRNA by using oligo(dT) as a primer and ligating to the SalI-NotI site of pBluescript II SK+ phagemid."

## ORIGIN

Query Match 78.2%; Score 17.2; DB 1; Length 479;  
Best Local Similarity 86.4%; Pred. No. 5.9e+02;  
Matches 19; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

QY 1 TGACTGTGAACGTTTCAGATGA 22  
|||||  
299 TGATGTGAATGTTAGAGATGA 320

## RESULT 15

BJ094274 513 bp mRNA linear EST 01-OCT-2003  
LOCUS BJ094274  
DEFINITION BJ094274 NIBB Mochii normalized Xenopus early gastrula library  
Xenopus laevis cDNA clone XL14p18 5', mRNA sequence.

ACCESSION BJ094274 GI:17594227  
VERSION BJ094274  
KEYWORDS EST.  
SOURCE Xenopus laevis (African clawed frog)  
ORGANISM Xenopus laevis

REFERENCE 1 (bases 1 to 513)  
AUTHORS Kohara, Y.  
TITLE Expressed genes in X. laevis embryo  
JOURNAL Unpublished (2001)  
COMMENT Contact: Tadao Shin-i  
Center For Genetic Resource Information  
National Institute of Genetics  
1111 Yata, Mishima, Shizuoka 411-8540, Japan  
Tel: 81-559-81-6856  
Fax: 81-559-81-6855  
Email: tshini@genes.nig.ac.jp  
The information of this clone is available through the following URL.  
http://xenopus.nibb.ac.jp.  
Location/Qualifiers

1. 513  
/organism="Xenopus laevis"  
/mol\_type="mRNA"  
/db\_xref="taxon:8355"  
/clone="XL14p18"  
/tissue\_type="whole embryo"



/mol\_type="mRNA"  
/db\_xref="taxon:4530"  
/clone="S114C07"  
/issue\_type="Stem"  
/dev\_stage="3-5 leaf stage"  
/clone\_lib="Stem library from Oryza sativa (3-5 leaf stage)"  
/note="Vector: pSport2"

## ORIGIN

Query Match 78.2%; Score 17.2; DB 4; Length 571;  
Best Local Similarity 86.4%; Pred. No. 6.1e+02;  
Matches 19; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

Qy 1 TGACTGTGAACGTTTCGAGATGA 22  
|||||  
Db 179 TGACTGTGAATGTTTCGAGATGA 200

RESULT 19  
CC952473 595 bp DNA linear GSS 18-AUG-2003  
LOCUS BOICU52TR\_BO\_1.4\_1.6\_KB\_nuc.Brassica oleracea genomic clone  
DEFINITION BOICU52, genomic survey sequence.  
ACCESSION CC952473  
VERSION CC952473  
KEYWORDS GSS.  
SOURCE Brassica oleracea  
ORGANISM Brassica oleracea

## SOURCE

Brassicaceae  
Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;  
Spermatophyta; Magnoliophyta; eudicotyledons; core eudicots;  
rosids; eustosids II; Brassicales; Brassicaceae; Brassica.  
Tom, C.D., Van Aken, S., Ultenback, T., Koo, H. and Fraser, C.M.  
1 (bases 1 to 595)  
Whole genome shotgun sequencing of Brassica oleracea  
Unpublished (2001)  
COMMENT Other GSSs: BOICU52TF  
Contact: Chris Town  
TIGR  
912 Medical Center Drive, Rockville, MD 20850, USA.  
Tel: 301-838-3523  
Fax: 301-838-0208  
Email: cdtown@tigr.org  
DNA is from a doubled haploid provided by Tom Osborn.  
Seq primer: TR  
Class: sheared ends.

## FEATURES

## source

location/Qualifiers  
1..595  
/organism="Brassica oleracea"  
/mol\_type="genomic DNA"  
/strain="TOL000DH3"  
/db\_xref="taxon:3712"  
/clone="BOICU52"  
/clone\_lib="BO\_1.4\_1.6\_KB\_nuc"  
/note="Vector: PHOS2; Site 1: BstXI; 1.4-1.6 kb sheared  
nuclear DNA inserted into PHOS2 using BstXI linkers"

## ORIGIN

Query Match 78.2%; Score 17.2; DB 9; Length 595;  
Best Local Similarity 86.4%; Pred. No. 6.1e+02;  
Matches 19; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

Qy 1 TGACTGTGAACGTTTCGAGATGA 22  
|||||  
Db 210 TGACTGTGATTGTTTCGAGATTA 231

RESULT 20  
CD488495 617 bp mRNA linear EST 29-AUG-2003  
LOCUS CD488495/c  
DEFINITION T10\_D04 Teliospore Ustilago maydis cDNA 5', mRNA sequence.  
ACCESSION CD488495  
VERSION CD488495.1 GI:34330993

KEYWORDS EST.  
SOURCE Ustilago maydis  
ORGANISM Ustilago maydis

REFERENCE  
AUTHORS Ustilaginomycetidae; Ustilaginales; Ustilaginaceae; Ustilago.  
1 (bases 1 to 617)  
Sacadura, N.T. and Saville, B.J.  
Gene expression and EST analyses of Ustilago maydis germinating  
teliospores  
Fungal Genet. Biol. 40 (1), 47-64 (2003)  
JOURNAL MEDLINE  
PUBMED 22829673  
CONTACT: Barry J. Saville  
Saville Lab  
University of Toronto  
3359 Mississauga Road North, Mississauga, ON, L5L 1C6, Canada  
Tel: 905 569 4702  
Fax: 905 828 3792  
Email: bsaville@ut.utoronto.ca  
Seq primer: M13 reverse primer (5' AACAGCTATGACCATGTTCA 3').

## FEATURES

## source

location/Qualifiers  
1..617  
/organism="Ustilago maydis"  
/mol\_type="mRNA"  
/strain="FBI/FB2"  
/db\_xref="taxon:5270"  
/cell\_type="Teliospore"  
/dev\_stage="Germinating teliospore"  
/lab\_host="E. coli"  
/clone\_lib="Teliospore"  
/note="Vector: pDNR-LIB, site 1: SfiI; site 2: SfiI; B;  
mRNA was extracted from germinating teliospores. cDNA was  
amplified by PCR and unidirectionally cloned into pDNR-LIB  
plasmid, with the use of Clontech's Creator SMART cDNA  
Library Construction Kit."

## ORIGIN

Query Match 78.2%; Score 17.2; DB 6; Length 617;  
Best Local Similarity 86.4%; Pred. No. 6.2e+02;  
Matches 19; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

Qy 1 TGACTGTGAACGTTTCGAGATGA 22  
|||||  
Db 439 TGACCGGAACGTTTCGAGTTGA 418

## FEATURES

## source

location/Qualifiers  
1..633  
/organism="Caenorhabditis elegans"  
B0808940 633 bp mRNA linear EST 27-MAY-2004  
B0808940 unpublished oligo-capped cDNA library, stage L4  
Caenorhabditis elegans cDNA clone YK1427e02 3', mRNA sequence.  
ACCESSION B0808940  
VERSION B0808940.1 GI:47718728  
KEYWORDS EST.  
SOURCE Caenorhabditis elegans  
ORGANISM Caenorhabditis elegans

REFERENCE  
AUTHORS Eukaryota; Metazoa; Nematoda; Chromadorea; Rhabditida;  
Rhabditioidea; Rhabditidae; Peloderinae; Caenorhabditis.  
1 (bases 1 to 633)  
Kohara, Y., Shin-1, T., Thierry-Mieg, J., Thierry-Mieg, D., Suzuki, Y.  
and Sugano, S.  
A complementary view of the C. elegans genome  
Unpublished (2002)  
CONTACT: Tadao Shin-1  
Center For Genetic Resource Information  
National Institute of Genetics  
1111 Yata, Mishima, Shizuoka 411-8540, Japan  
Tel: 81-559-81-6856  
Fax: 81-559-81-6855  
Email: tshin@genes.nig.ac.jp.

## FEATURES

## source

/mol\_type="mRNA"  
/strain="N2"  
/db\_xref="taxon:6239"  
/clone="YK1427e02"  
/sex="Hermaphrodite"  
/tissue\_type="whole animal"  
/dev\_stage="L4"  
/clone\_lib="unpublished oligo-capped cDNA library, stage L4"

ORIGIN

Query Match 78.2%; Score 17.2; DB 4; Length 633;  
Best Local Similarity 86.4%; Pred. No. 6.2e+02;  
Matches 19; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

Qy 1 TGACTGTGAACGTTGAGATGA 22  
|||||  
Db 253 TGACTGTGAACGTTGAGATGA 274

RESULT 22  
CR286398 634 bp mRNA linear EST 27-FEB-2004  
DEFINITION CR286398 Oryza sativa library (Han B) Oryza sativa cDNA clone  
Y771B09p3, mRNA sequence.  
ACCESSION CR286398  
VERSION CR286398.1 GI:44672964  
KEYWORDS EST.  
SOURCE Oryza sativa  
ORGANISM Oryza sativa  
Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;  
Spermatophyta; Magnoliophyta; Liliopsida; Poales; Poaceae;  
Eriarthroideae; Oryzaceae; Oryza.  
1 (bases 1 to 634)  
Han,B., Feng,Q., Huang,Y.C., Ying,K., Li,Y., Guan,J.P., Zhu,J.J.,  
Zhao,Q., Hu,X., Liu,Y.L., Mu,J., Yu,Z., Chen,L., Fan,D.L.,  
Wang,Q.J., Zhang,L., Lu,Y.Q., Yu,S.L., Liu,X.H., Lu,T.T.,  
Zhang,Y.J., Lu,Y., Li,C., Li,T., Zhang,Y., Hu,H., Jia,P.X.,  
Zhang,L., Lan,L.F., Chen,W., Wu,S.A. and Xue,Y.B.  
Rice cDNA EST clone  
Unpublished (2003)  
Contact: Han Bin  
National Center for Gene Research  
Chinese Academy of Sciences  
500# Cao Bao Road, Shanghai 200233, China  
Email: bhan@ncgr.ac.cn  
Clone requests: bhan@ncgr.ac.cn  
This is rice cDNA est clone  
Web site: http://www.ncgr.ac.cn.  
Location/Qualifiers

FEATURES  
source  
1..634  
/organism="Oryza sativa"  
/mol\_type="mRNA"  
/db\_xref="taxon:4530"  
/clone="Y771B09p3"  
/clone\_lib="Oryza sativa library (Han B)"

ORIGIN

Query Match 78.2%; Score 17.2; DB 7; Length 634;  
Best Local Similarity 86.4%; Pred. No. 6.2e+02;  
Matches 19; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

Qy 1 TGACTGTGAACGTTGAGATGA 22  
|||||  
Db 469 TGACTGTGAACGTTGAGATGA 448

RESULT 23  
CD487922/c 655 bp mRNA linear EST 29-AUG-2003  
LOCUS CD487922  
DEFINITION T02\_B03 Teliospore Ustilago maydis cDNA 5', mRNA sequence.  
ACCESSION CD487922  
VERSION CD487922.1 GI:34330420

KEYWORDS EST.  
SOURCE Ustilago maydis  
ORGANISM Ustilago maydis  
Eukaryota; Fungi; Basidiomycota; Ustilaginomycetes;  
Ustilaginomycetidae; Ustilaginales; Ustilaginaceae; Ustilago.  
1 (bases 1 to 655)  
Sacadura,N.T. and Saville,B.J.  
Gene expression and EST analyses of Ustilago maydis germinating  
teliospores  
Fungal Genet. Biol. 40 (1), 47-64 (2003)

JOURNAL MEDLINE  
PUBMED 12948513  
COMMENT Contact: Barry J. Saville  
Saville Lab  
University of Toronto  
3359 Mississauga Road North, Mississauga, ON, L5L 1C6, Canada  
Tel: 905 569 4702  
Fax: 905 828 3792  
Email: bsaville@utms.utoronto.ca  
Seq primer: M13 reverse primer (5' AACACCTATGACCATGTTCA 3').  
Location/Qualifiers

FEATURES  
source  
1..655  
/organism="Ustilago maydis"  
/mol\_type="mRNA"  
/strain="FB1/FB2"  
/db\_xref="taxon:5270"  
/cell\_type="Teliospore"  
/dev\_stage="Germinating teliospore"  
/lab\_host="E. coli"  
/clone\_lib="Teliospore"  
/note="Vector: pDNR-LIB, Site\_1: SfiI, Site\_2: SfiI;  
mRNA was extracted from germinating teliospores. cDNA was  
amplified by PCR and unidirectionally cloned into pDNR-LIB  
plasmid, with the use of Clontech's Creator SMART cDNA  
Library Construction Kit."

ORIGIN

Query Match 78.2%; Score 17.2; DB 6; Length 655;  
Best Local Similarity 86.4%; Pred. No. 6.2e+02;  
Matches 19; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

Qy 1 TGACTGTGAACGTTGAGATGA 22  
|||||  
Db 408 TGACCGGAACGTTGAGATGA 387

RESULT 24  
BM071434 726 bp mRNA linear EST 20-OCT-2002  
LOCUS BM071434  
DEFINITION BM071434 Nori Satoh unpublished cDNA library, cleaving embryo Ciona  
intestinalis cDNA clone rclcl096b23 3', mRNA sequence.  
ACCESSION BM071434  
VERSION BM071434.1 GI:24172846  
KEYWORDS EST.  
SOURCE Ciona intestinalis  
ORGANISM Ciona intestinalis  
Eukaryota; Metazoa; Chordata; Urochordata; Ascidiacea; Enterogona;  
Phlebobranchia; Cloniidae; Ciona.  
1 (bases 1 to 726)  
Satoh,Y., Shin-I,T., Kohara,Y. and Satoh,N.  
Expressed genes in Ciona intestinalis (2002c)  
Unpublished (2002)  
Contact: Nori Satoh  
Department of Zoology  
Kyoto University  
Sakyo-ku, Kyoto, Kyoto 606-8502, Japan  
Tel: 81-75-753-4081  
Fax: 81-75-705-1113  
Email: satoh@scidian.zool.kyoto-u.ac.jp.  
Location/Qualifiers

FEATURES  
source  
1..726  
/organism="Ciona intestinalis"  
/mol\_type="mRNA"

ORIGIN

Query Match 78.2%; Score 17.2; DB 5; Length 726;  
Best Local Similarity 86.4%; Pred. No. 6.3e+02;  
Matches 19; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

1 TGACTGTGAACGTTTCGAGATGA 22  
|||||  
17 TGACTGTGAACGTCGATATGA 38

/db\_xref="taxon:7719"  
/clone="rcic1096b23"  
/tissue\_type="whole body"  
/dev\_stage="cleaving embryo"  
/clone\_1lb="Nori Satoh unpublished cDNA library, cleaving embryo"

ORIGIN

Query Match 78.2%; Score 17.2; DB 5; Length 726;  
Best Local Similarity 86.4%; Pred. No. 6.3e+02;  
Matches 19; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

1 TGACTGTGAACGTTTCGAGATGA 22  
|||||  
17 TGACTGTGAACGTCGATATGA 38

/db\_xref="taxon:7719"  
/clone="rcic1096b23"  
/tissue\_type="whole body"  
/dev\_stage="cleaving embryo"  
/clone\_1lb="Nori Satoh unpublished cDNA library, cleaving embryo"

RESULT 25

CB685128/c 767 bp mRNA linear EST 09-APR-2003

LOCUS OSJNEF15E19.r OSJNEF Oryza sativa (japonica cultivar-group) cDNA

DEFINITION clone OSJNEF15E19 3', mRNA sequence.

ACCESSION CB685128

VERSION CB685128.1 GI:29688853

KEYWORDS EST.

SOURCE Oryza sativa (japonica cultivar-group)

ORGANISM Oryza sativa (japonica cultivar-group)

REFERENCE Jantaasuriyarat,C., Lu,G., Gowda,M., Hatfield,J., Zhou,B., Mazur,E., Kudrna,D., Dean,R., Soderlund,C., Wing,R. and Wang,G. Large-scale identification of ESTs involved in the interaction between rice and Magnaporthe grisea unpublished (2003)

JOURNAL Contact: Rod Wing

COMMENT Arizona Genomics Institute

UNIVERSITY University of Arizona

LOCUS Biological Sciences West, 448A, P.O. Box 210088, Tucson, AZ 85721-0088, USA

TEL: 520 626 3967

FAX: 520 621 9288

EMAIL: http://genome.arizona.edu

PCR PRIMERS FORWARD: gga aac cga cga cga gtc

BACKWARD: gga aac agc tat gac cat g

PLATE: 15 row: B column: 19

Seq primer: gga aac agc tat gac cat g.

Location/Qualifiers

1..767

/organism="Oryza sativa (japonica cultivar-group)"

/mol\_type="mRNA"

/cultivar="Nipponbare"

/db\_xref="taxon:39947"

/clone="OSJNEF15E19"

/tissue\_type="leaf"

/dev\_stage="3 week"

/lab\_host="DH10B"

/clone\_1lb="OSJNEF"

/note="Vector: pBluescript II KS +; Site\_1: EcoRI; Site\_2: XhoI; Uninfected Control"

ORIGIN

Query Match 78.2%; Score 17.2; DB 6; Length 767;  
Best Local Similarity 86.4%; Pred. No. 6.4e+02;  
Matches 19; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

1 TGACTGTGAACGTTTCGAGATGA 22  
|||||  
215 TGAGTGTGAATGTTAGAGATGA 194

/db\_xref="taxon:7719"  
/clone="rcic1096b23"  
/tissue\_type="whole body"  
/dev\_stage="cleaving embryo"  
/clone\_1lb="Nori Satoh unpublished cDNA library, cleaving embryo"

ORIGIN

Query Match 78.2%; Score 17.2; DB 6; Length 767;  
Best Local Similarity 86.4%; Pred. No. 6.4e+02;  
Matches 19; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

1 TGACTGTGAACGTTTCGAGATGA 22  
|||||  
215 TGAGTGTGAATGTTAGAGATGA 194

/db\_xref="taxon:7719"  
/clone="rcic1096b23"  
/tissue\_type="whole body"  
/dev\_stage="cleaving embryo"  
/clone\_1lb="Nori Satoh unpublished cDNA library, cleaving embryo"

RESULT 26

CB644373/c 812 bp mRNA linear EST 08-APR-2003

LOCUS OSJNEB05122.r OSJNEB Oryza sativa (japonica cultivar-group) cDNA

DEFINITION clone OSJNEB05122 3', mRNA sequence.

ACCESSION CB644373

VERSION CB644373.1 GI:29639364

KEYWORDS EST.

SOURCE Oryza sativa (japonica cultivar-group)

ORGANISM Oryza sativa (japonica cultivar-group)

REFERENCE Jantaasuriyarat,C., Lu,G., Gowda,M., Hatfield,J., Zhou,B., Mazur,E., Kudrna,D., Dean,R., Soderlund,C., Wing,R. and Wang,G. Large-scale identification of ESTs involved in the interaction between rice and Magnaporthe grisea unpublished (2003)

JOURNAL Contact: Rod Wing

COMMENT Arizona Genomics Institute

UNIVERSITY University of Arizona

LOCUS Biological Sciences West, 448A, P.O. Box 210088, Tucson, AZ 85721-0088, USA

TEL: 520 626 3967

FAX: 520 621 9288

EMAIL: http://genome.arizona.edu

PCR PRIMERS FORWARD: gga aac cga cga cga gtc

BACKWARD: gga aac agc tat gac cat g

PLATE: 05 row: I column: 22

Seq primer: gga aac agc tat gac cat g.

Location/Qualifiers

1..812

/organism="Oryza sativa (japonica cultivar-group)"

/mol\_type="mRNA"

/cultivar="Nipponbare"

/db\_xref="taxon:39947"

/clone="OSJNEB05122"

/tissue\_type="leaf"

/dev\_stage="3 week"

/lab\_host="DH10B"

/clone\_1lb="OSJNEB"

/note="Vector: pBluescript II KS +; Site\_1: EcoRI; Site\_2: XhoI; 24 hrs after inoculation with Rice Blast (Che 86061)"

ORIGIN

Query Match 78.2%; Score 17.2; DB 6; Length 812;  
Best Local Similarity 86.4%; Pred. No. 6.5e+02;  
Matches 19; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

1 TGACTGTGAACGTTTCGAGATGA 22  
|||||  
372 TGAGTGTGAATGTTAGAGATGA 351

/db\_xref="taxon:7719"  
/clone="rcic1096b23"  
/tissue\_type="whole body"  
/dev\_stage="cleaving embryo"  
/clone\_1lb="Nori Satoh unpublished cDNA library, cleaving embryo"

ORIGIN

Query Match 78.2%; Score 17.2; DB 6; Length 812;  
Best Local Similarity 86.4%; Pred. No. 6.5e+02;  
Matches 19; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

1 TGACTGTGAACGTTTCGAGATGA 22  
|||||  
372 TGAGTGTGAATGTTAGAGATGA 351

/db\_xref="taxon:7719"  
/clone="rcic1096b23"  
/tissue\_type="whole body"  
/dev\_stage="cleaving embryo"  
/clone\_1lb="Nori Satoh unpublished cDNA library, cleaving embryo"

ORIGIN

Query Match 78.2%; Score 17.2; DB 6; Length 812;  
Best Local Similarity 86.4%; Pred. No. 6.5e+02;  
Matches 19; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

1 TGACTGTGAACGTTTCGAGATGA 22  
|||||  
372 TGAGTGTGAATGTTAGAGATGA 351

/db\_xref="taxon:7719"  
/clone="rcic1096b23"  
/tissue\_type="whole body"  
/dev\_stage="cleaving embryo"  
/clone\_1lb="Nori Satoh unpublished cDNA library, cleaving embryo"

ORIGIN

Query Match 78.2%; Score 17.2; DB 6; Length 767;  
Best Local Similarity 86.4%; Pred. No. 6.4e+02;  
Matches 19; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

1 TGACTGTGAACGTTTCGAGATGA 22  
|||||  
215 TGAGTGTGAATGTTAGAGATGA 194

/db\_xref="taxon:7719"  
/clone="rcic1096b23"  
/tissue\_type="whole body"  
/dev\_stage="cleaving embryo"  
/clone\_1lb="Nori Satoh unpublished cDNA library, cleaving embryo"

ORIGIN

Query Match 78.2%; Score 17.2; DB 6; Length 767;  
Best Local Similarity 86.4%; Pred. No. 6.4e+02;  
Matches 19; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

1 TGACTGTGAACGTTTCGAGATGA 22  
|||||  
215 TGAGTGTGAATGTTAGAGATGA 194

/db\_xref="taxon:7719"  
/clone="rcic1096b23"  
/tissue\_type="whole body"  
/dev\_stage="cleaving embryo"  
/clone\_1lb="Nori Satoh unpublished cDNA library, cleaving embryo"

ORIGIN

Query Match 78.2%; Score 17.2; DB 6; Length 812;  
Best Local Similarity 86.4%; Pred. No. 6.5e+02;  
Matches 19; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

1 TGACTGTGAACGTTTCGAGATGA 22  
|||||  
372 TGAGTGTGAATGTTAGAGATGA 351

/db\_xref="taxon:7719"  
/clone="rcic1096b23"  
/tissue\_type="whole body"  
/dev\_stage="cleaving embryo"  
/clone\_1lb="Nori Satoh unpublished cDNA library, cleaving embryo"

ORIGIN

Query Match 78.2%; Score 17.2; DB 6; Length 812;  
Best Local Similarity 86.4%; Pred. No. 6.5e+02;  
Matches 19; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

1 TGACTGTGAACGTTTCGAGATGA 22  
|||||  
372 TGAGTGTGAATGTTAGAGATGA 351

/db\_xref="taxon:7719"  
/clone="rcic1096b23"  
/tissue\_type="whole body"  
/dev\_stage="cleaving embryo"  
/clone\_1lb="Nori Satoh unpublished cDNA library, cleaving embryo"

ORIGIN

Query Match 78.2%; Score 17.2; DB 6; Length 812;  
Best Local Similarity 86.4%; Pred. No. 6.5e+02;  
Matches 19; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

1 TGACTGTGAACGTTTCGAGATGA 22  
|||||  
372 TGAGTGTGAATGTTAGAGATGA 351

/db\_xref="taxon:7719"  
/clone="rcic1096b23"  
/tissue\_type="whole body"  
/dev\_stage="cleaving embryo"  
/clone\_1lb="Nori Satoh unpublished cDNA library, cleaving embryo"

ORIGIN

Query Match 78.2%; Score 17.2; DB 6; Length 812;  
Best Local Similarity 86.4%; Pred. No. 6.5e+02;  
Matches 19; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

1 TGACTGTGAACGTTTCGAGATGA 22  
|||||  
372 TGAGTGTGAATGTTAGAGATGA 351

/db\_xref="taxon:7719"  
/clone="rcic1096b23"  
/tissue\_type="whole body"  
/dev\_stage="cleaving embryo"  
/clone\_1lb="Nori Satoh unpublished cDNA library, cleaving embryo"

ORIGIN

Query Match 78.2%; Score 17.2; DB 6; Length 812;  
Best Local Similarity 86.4%; Pred. No. 6.5e+02;  
Matches 19; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

1 TGACTGTGAACGTTTCGAGATGA 22  
|||||  
372 TGAGTGTGAATGTTAGAGATGA 351

/db\_xref="taxon:7719"  
/clone="rcic1096b23"  
/tissue\_type="whole body"  
/dev\_stage="cleaving embryo"  
/clone\_1lb="Nori Satoh unpublished cDNA library, cleaving embryo"



RESULT 30	CNS05PD9	972 bp	DNA	linear	GSS 01-SEP-2000
CNS05PD9/c	Tetradodon nigroviridis genome survey sequence T7 end of clone				
LOCUS	005F08 of library A from Tetradodon nigroviridis, genomic survey				
DEFINITION	sequence.				
ACCESSION	AL347814.1	GI:8241584			
VERSION	AL347814				
KEYWORDS	GSS; genome survey; sequence.				
SOURCE	Tetradodon nigroviridis				
ORGANISM	Tetradodon nigroviridis				
	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;				
	Acanthopterygii; Neopterygii; Teleostei; Euteleostei; Neoteleostei;				
	Acipenseromorphi; Acanthopterygii; Percomorpha; Tetraodontiformes;				
	Tetraodontidae; Tetraodontidae; Tetradodon.				
REFERENCE	1 Roest Croollius,H., Jalllon,O., Dasilva,C., Bouneau,L., Fisher,C.,				
AUTHORS	Bernot,A., Fitzames,C., Wincker,P., Brotlier,F., Quetier,F.,				
	Saurin,W. and Weissbach,J.				
	Estimate of human gene number provided by genome-wide analysis				
JOURNAL	using Tetradodon nigroviridis DNA sequence				
MEDLINE	Nat. Genet. 25 (2), 235-238 (2000)				
PUBMED	20296633				
REFERENCE	10835645				
AUTHORS	2 Roest Crollius,H., Jalllon,O., Dasilva,C., Ozouf-Costaz,C.,				
	Fitzames,C., Fischer,C., Bouneau,L., Billault,A., Quetier,F.,				
	Saurin,W., Bernot,A. and Weissbach,J.				
	Characterization and repeat analysis of the compact genome of the				
	freshwater pufferfish Tetradodon nigroviridis				
	Genome Res. 10 (7), 939-949 (2000)				
JOURNAL	20359837				
MEDLINE	10899143				
PUBMED	3 (bases 1 to 972)				
REFERENCE	Genoscope.				
AUTHORS	Direct Submission				
JOURNAL	Submitted (12-APR-2000) Genoscope - Centre National de Sequencage :				
	BP 191 91006 EVRY cedex - FRANCE (E-mail : sequef@genoscope.cns.fr				
	- Web : www.genoscope.cns.fr)				
	This sequence is a single read and was generated as part of a larges				
	scale clone-and sequencing project of the Tetradodon nigroviridis				
	genome. For more information, please take a look at				
	http://www.genoscope.cns.fr/Tetradodon.				
FEATURES	location/Qualifiers				
source	1..972				
	/organism="Tetradodon nigroviridis"				
	/mol_type="genomic DNA"				
	/db_xref="taxon:99883"				
	/clone="005F08"				
	/clone_lib="A"				
	/note="Genoscope sequence ID : COAA005DC04C1~end : T7"				
ORIGIN					
Query Match	78.2%; Score 17.2; DB 9; Length 972;				
Best Local Similarity	86.4%; Pred. No. 6.7e+02;				
Matches	19; Conservative 0; Mismatches 3; Indels 0; Gaps 0;				
Oy	1 TGACTGTGAAGCGTTGAGATGA 22				
Db	46 TGGCTGTGAAGGTGCGAGATGA 25				
RESULT 31	CAI39194	1028 bp	mRNA	linear	EST 24-SEP-2003
LOCUS	CAI39194				
DEFINITION	SCBQR7094G05.9 RT2 Saccharum officinarum cDNA clone SCBQR7094G05				
ACCESSION	5' mRNA sequence.				
	CAI39194				

VERSION  
 KEYWORDS  
 SOURCE  
 ORGANISM  
 REFERENCE  
 AUTHORS  
 TITLE  
 JOURNAL  
 COMMENT  
 1 (bases 1 to 1028)  
 Vettore,A.L., da Silva,F.R., Kemper,E.L. and Arruda,P.  
 The libraries that made SUCEST  
 Genet. Mol. Biol. 24 (1-4), 1-7 (2001)  
 Contact: Arruda P  
 Centro de Biologia Molecular e Engenhariaia Genetica  
 Universidade Estadual de Campinas  
 Caixa Postal 6010, 13083-970, Campinas SP, Brazil  
 Tel: 55 19 3788 1137  
 Fax: 55 19 3788 1089  
 Email: paruda@unicamp.br  
 Clone distribution: clone distribution information can be found  
 through the Brazilian Clone Collection Center (BCCC) at  
<http://www.bcccenter.fcav.unesp.br>  
 Plate: 094 row: G column: 05  
 Seq primer: T7 Promoter Primer.  
 Location/Qualifiers  
 1..1028  
 /organism="Saccharum officinarum"  
 /mol\_type="mRNA"  
 /db\_xref="taxon:4547"  
 /clone="SCCE02094G05"  
 /lab\_host="DH10B"  
 /clone\_1lb="R12"  
 /note="Organ: Root tips(0.3cm-long) from adult plants;  
 Vector: pSport1; Site\_1: SalI; Site\_2: NotI; An  
 unidirectional cDNA library generated from (root  
 tips(0.3cm-long) from adult plants). cDNA was prepared  
 from polyA+ mRNA using Superscript Plasmid System Kit  
 (Invitrogen). The double-strand cDNAs were fractionated  
 in a sepharose CL-2B 40cm-columns and fragments sizing  
 between 0.8 and 1.5 kb were directionally cloned into the  
 vector. Details of each source of RNA and library  
 construction can be obtained at  
<http://sucest.lad.ic.unicamp.br/public>"

ORIGIN  
 Query Match 78.2%; Score 17.2; DB 6; Length 1028;  
 Best Local Similarity 86.4%; Pred. No. 6,7e+02;  
 Matches 19; Conservative 0; Mismatches 3; Indels 0; Gaps 0;  
 QY 1 TGACTGTGACGTTGAGATGA 22  
 |||||||||  
 Db 626 TGACTGTGACGTTGAGATGA 647

RESULT 32  
 LOCUS  
 DEFINITION  
 SAII\_44 GI0\_v1 SAII Collection Arabidopsis thaliana genomic clone  
 SAII\_44 GI0\_v1, genomic survey sequence.  
 ACCESSION  
 VERSION  
 KEYWORDS  
 SOURCE  
 ORGANISM  
 REFERENCE  
 AUTHORS  
 TITLE  
 JOURNAL  
 COMMENT  
 1 (bases 1 to 1852)  
 Seesions,A., Burke,B., Presting,G., Aux,G., McElver,J., Patton,D.,  
 Dietrich,B., Ho,P., Bacmaden,J., Ko,C., Clarke,J.D., Cotton,D.,  
 Bullis,D., Snell,J., Miguel,T., Hutchison,D., Kimerly,B.,  
 Mitzel,T., Katagiri,F., Glazebrook,J., Law,M. and Goff,S.A.  
 A high-throughput Arabidopsis reverse genetics system



JOURNAL Plant Cell 14 (12), 2985-2994 (2002)  
 MEDLINE 22356987  
 PUBMED 12468722  
 COMMENT Contact: Sessions A  
 Applied Trait Genetics  
 Syngenta Biotechnology Inc.  
 3054 Cornwallis Rd., Research Triangle Park, NC 27709, USA  
 Email: allen.sessions@syngenta.com  
 ABRC Stock Number CS802138; T-DNA left border flanking sequences of  
 Syngenta Arabidopsis Insertion Library (SAIL) lines are available  
 through the Arabidopsis Biological Resource Center (ABRC).  
 Sequences represent a pool of amplified genomic regions and not  
 single contiguous sequences.  
 Class: TDNA tagged.  
 Location/Qualifiers  
 1..1852  
 /organism="Arabidopsis thaliana"  
 /mol\_type="genomic DNA"  
 /ecotype="Columbia"  
 /db\_xref="taxon:3702"  
 /clone="SAIL 44 G10.v1"  
 /clone\_lib="SAIL Collection"  
 /note="T-DNA left border sequences were isolated using a  
 modified TAIL-PCR strategy"

ORIGIN

Query Match 78.2%; Score 17.2; DB 9; Length 1852;  
 Best Local Similarity 86.4%; Pred. No. 7.5e+02;  
 Matches 19; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

QY 1 TGACTGTGAACGTTGAGATGA 22  
 |||||  
 121 TGACTGTGAATGTTAGATGA 142

RESULT 33 AK037625 2481 bp mRNA linear HTC 03-APR-2004  
 LOCUS AK037625/c  
 DEFINITION Mus musculus 16 days neonate thymus cDNA, RIKEN full-length  
 enriched library, clone: A130030F17 product: unknown EST, full insert  
 sequence.  
 ACCESSION AK037625  
 VERSION AK037625.1 GI:26085966  
 KEYWORDS HTC; CAP trapper.  
 SOURCE Mus musculus (house mouse)  
 ORGANISM Mus musculus  
 Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;  
 Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.  
 1  
 Carinci, P. and Hayashizaki, Y.  
 High-efficiency full-length cDNA cloning  
 Meth. Enzymol. 303, 19-44 (1999)  
 MEDLINE 99279253  
 PUBMED 10349636  
 REFERENCE  
 AUTHORS Carinci, P., Shibata, Y., Hayatsu, N., Sugahara, Y., Shibata, K.,  
 Itoh, M., Konno, H., Okazaki, Y., Muramatsu, M. and Hayashizaki, Y.  
 Normalization and subtraction of cap-trapper-selected cDNAs to  
 prepare full-length cDNA libraries for rapid discovery of new genes  
 Genome Res. 10 (10), 1617-1630 (2000)  
 JOURNAL MEDLINE 20499374  
 PUBMED 11042159  
 REFERENCE  
 AUTHORS Shibata, K., Itoh, M., Aizawa, K., Nagaoka, S., Sasaki, N., Carinci, P.,  
 Konno, H., Akiyama, J., Nishi, K., Kitsuai, T., Tashiro, H., Itoh, M.,  
 Sumi, N., Ishii, Y., Nakamura, S., Hazama, M., Nishino, T., Harada, A.,  
 Yamamoto, R., Matsumoto, H., Sakaguchi, S., Ikegami, T., Kashiwagi, K.,  
 Fujiwara, S., Inoue, K., Togawa, Y., Izawa, M., Ohara, E., Matsui, M.,  
 Yoneda, Y., Ishikawa, T., Ozawa, K., Tanaka, T., Matsura, S., Kawai, J.,  
 Okazaki, Y., Muramatsu, M., Inoue, Y., Kira, A. and Hayashizaki, Y.  
 RIKEN integrated sequence analysis (RISA) system-384-format  
 sequencing pipeline with 384 multicapillary sequencer  
 Genome Res. 10 (11), 1757-1771 (2000)  
 JOURNAL

MEDLINE 20530913  
 PUBMED 11076861  
 REFERENCE  
 AUTHORS 4  
 The RIKEN Genome Exploration Research Group Phase II Team and the  
 PANTOM Consortium.  
 Functional annotation of a full-length mouse cDNA collection  
 Nature 409, 685-690 (2001)  
 5  
 The PANTOM Consortium and the RIKEN Genome Exploration Research  
 Group Phase I & II Team.  
 Analysis of the mouse transcriptome based on functional annotation  
 of 60,770 full-length cDNAs  
 Nature 420, 563-573 (2002)  
 6 (bases 1 to 2481)  
 Adachi, J., Aizawa, K., Akimura, T., Arakawa, T., Bono, H., Carinci, P.,  
 Fukuda, S., Furuno, M., Hanagaki, T., Hara, A., Hashizume, W.,  
 Hayashida, K., Hayatsu, N., Hiranoto, K., Hiraoka, T., Hirozane, T.,  
 Hori, F., Imotani, K., Ishii, Y., Itoh, M., Kagawa, I., Kasukawa, T.,  
 Katoh, H., Kawai, J., Kojima, Y., Kondo, S., Konno, H., Kouda, M.,  
 Koya, S., Kurihara, C., Matsuyama, T., Miyazaki, A., Murata, M.,  
 Nakamura, M., Nishi, K., Nomura, K., Numazaki, R., Ohno, M., Ohsato, N.,  
 Okazaki, Y., Saito, R., Saitoh, H., Sakai, C., Sakai, K., Sakazume, N.,  
 Sano, H., Sasaki, D., Shibata, K., Shingawa, A., Shiraki, T.,  
 Sogabe, Y., Tagami, M., Tagawa, A., Takahashi, F., Takaku-Akanita, S.,  
 Takeda, Y., Tanaka, T., Tomaru, A., Toya, T., Yasunishi, A.,  
 Muramatsu, M. and Hayashizaki, Y.  
 Direct Submission  
 Submitted (16-JUN-2001) Yoshihide Hayashizaki, The Institute of  
 Physical and Chemical Research (RIKEN), Laboratory for Genome  
 Exploration Research Group, RIKEN Genomic Sciences Center (GSC),  
 RIKEN Yokohama Institute; 1-7-22 Suehiro-cho, Tsurumi-ku, Yokohama,  
 Kanagawa 230-0045, Japan (E-mail: genome-res@gscl.riken.jp,  
 URL: http://genome.gsc.riken.jp/, Tel: 81-45-503-9222,  
 Fax: 81-45-503-9216)  
 COMMENT cDNA library was prepared and sequenced in Mouse Genome  
 Encyclopedia Project of Genome Exploration Research Group in Riken  
 Genomic Sciences Center and Genome Science Laboratory in RIKEN.  
 Division of Experimental Animal Research in Riken contributed to  
 prepare mouse tissues.  
 Please visit our web site for further details.  
 URL: http://genome.gsc.riken.jp/  
 URL: http://fantom.gsc.riken.jp/  
 URL: http://fantom.gsc.riken.jp/  
 FEATURES  
 source 1..2481  
 /organism="Mus musculus"  
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 /strain="C57BL/6J"  
 /db\_xref="PANTOM\_DB:A130030F17"  
 /db\_xref="taxon:10090"  
 /clone="A130030F17"  
 /tissue\_type="thymus"  
 /clone\_lib="RIKEN full-length enriched mouse cDNA library"  
 /dev\_stage="16 days neonate"  
 1..2481  
 /note="unknown EST (GB|BE692239, evidence: BLASTN, 99%,  
 match=501)"

ORIGIN

Query Match 78.2%; Score 17.2; DB 3; Length 2481;  
 Best Local Similarity 86.4%; Pred. No. 7.9e+02;  
 Matches 19; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

QY 1 TGACTGTGAACGTTGAGATGA 22  
 |||||  
 605 TGAAATGTGAACGTTGAGATGA 584

RESULT 34 AA094019 105 bp mRNA linear EST 25-OCT-1996  
 LOCUS AA094019  
 DEFINITION C1619, seq. F Human fetal heart, Lambda ZAP Express Homo sapiens  
 cDNA 5', mRNA sequence.  
 ACCESSION AA094019

VERSION AA094019.1 GI:1639612  
KEYWORDS EST.  
SOURCE Homo sapiens (human)  
ORGANISM Homo sapiens  
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;  
Mammalia; Eutheria; Primates; Catarrhini; Homnidae; Homo.  
1 (bases 1 to 105)  
Llew,C.C.  
CDNAs from fetal heart (1996)  
Unpublished (1996)  
CONTACT: Llew CC  
Brigham and Women's Hospital  
Harvard Medical School  
75 Francis St. Boston, MA 02115, USA  
Tel: 6177328915  
Fax: 6179750995  
Email: cliew@rics.bwh.harvard.edu  
PCR PRIMERS  
FORWARD: 5' GCCAGCTGGAATTACCTCCTCACTAAGG 3'  
BACKWARD: 5' CCAGTAATGTAAATACGACTCCTATAGGCG 3'  
Seq primer: 5' GAATTACCTCCTCACTAAGG 3'.  
Location/Qualifiers  
1..105  
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/mol\_type="mRNA"  
/db\_xref="taxon:9606"  
/lab\_host="E. coli XL1-Blue"  
/clone\_lib="Human fetal heart, Lambda ZAP Express"  
/note="Vector: Lambda ZAP Express; Site 1: EcoRI; Site 2:  
XhoI; mRNA was purified from human fetal hearts (8-10  
weeks). cDNA was synthesized using a XhoI-Oligo dT  
adaptor-primer. EcoRI adaptors were ligated, followed by  
digestion with XhoI, for directional cloning into  
predigested lambda ZAP Express."

ORIGIN  
Query Match 76.4%; Score 16.8; DB 1; Length 105;  
Best Local Similarity 90.0%; Pred. No. 7.3e+02;  
Matches 18; Conservative 0; Mismatches 2; Indels 0; Gaps 0;  
Db 1 TGACGTGAACGTTTCAGAT 20  
43 TGACGTGAACCTTCAGAT 62

RESULT 35  
CE537167/c 496 bp DNA linear GSS 28-SEP-2003  
LOCUS tigr-gss-dog-17000365936856 Dog Library Canis familiaris genomic,  
DEFINITION genomic survey sequence.  
ACCESSION CE537167  
VERSION CE537167  
KEYWORDS GSS.  
SOURCE CE537167.1 GI:36853948  
ORGANISM Canis familiaris (dog)  
Canis familiaris  
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;  
Mammalia; Eutheria; Carnivora; Fissipedia; Canidae; Canis.  
1 (bases 1 to 496)  
Kirkness,E.F., Bafna,V., Halpern,A.L., Levy,S., Remington,K.,  
Ruesch,D.B., Delcher,A.L., Pop,M., Wang,M., Fraser,C.M. and  
Venter,J.C.  
The dog genome: survey sequencing and comparative analysis  
Science 301 (5641), 1898-1903 (2003)  
JOURNAL MEDLINE 22875432  
PUBMED 14512627  
COMMENT Contact: Kirkness EF  
The Institute for Genomic Research  
Department of Eukaryotic Genomics, TIGR, 9712 Medical Center Drive,  
Rockville, MD 20850, USA  
Tel: 301-838-0200  
Fax: 301-838-0208  
Email: ekirknes@tigr.org  
Class: shotgun.

FEATURES  
source location/Qualifiers  
1..496  
/organism="Canis familiaris"  
/mol\_type="genomic DNA"  
/strain="Standard Poodle"  
/db\_xref="taxon:9615"  
/clone\_lib="Dog Library"  
/note="Site 1: BstXI; Libraries were prepared from  
peripheral blood"

ORIGIN  
Query Match 76.4%; Score 16.8; DB 9; Length 496;  
Best Local Similarity 90.0%; Pred. No. 9.6e+02;  
Matches 18; Conservative 0; Mismatches 2; Indels 0; Gaps 0;  
Db 184 ACTGTGAAGATCGAGATCA 165

QY 3 ACTGTGAACGTTTCAGATGA 22  
184 ACTGTGAAGATCGAGATCA 165

RESULT 36  
AZ483488 523 bp DNA linear GSS 05-OCT-2000  
LOCUS 1M0309M12F Mouse 10kb plasmid UUGC1M library Mus musculus genomic  
DEFINITION clone UUGC1M0309M12 F, genomic survey sequence.  
ACCESSION AZ483488  
VERSION AZ483488  
KEYWORDS GSS.  
SOURCE AZ483488.1 GI:10647510  
ORGANISM Mus musculus (house mouse)  
Mus musculus  
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;  
Mammalia; Eutheria; Rodentia; Sclirognathi; Muridae; Murinae; Mus.  
1 (bases 1 to 523)  
Dunn,D., Aoyagi,A., Barber,M., Beacorn,T., Duval,B., Hamill,C.,  
Islam,H., Longacre,S., Mahmoud,M., Meenen,E., Pedersen,T.,  
Rellly,M., Rose,M., Rose,R., Stokes,R., Tingey,A., von  
Niedermausen,A. and Wright,D.,Weiss,R.  
Mouse whole genome scaffolding with paired end reads from 10kb  
plasmid inserts  
Unpublished (2000)  
CONTACT: Robert B. Weiss  
University of Utah Genome Center  
University of Utah  
Rm. 308, Biomedical Polymers Research Bldg., 20 S. 2030 E., SLC, UT  
84112, USA  
Tel: 801 585 5606  
Fax: 801 585 7177  
Email: ddunn@genetics.utah.edu  
Insert Length: 10000 Std Error: 0.00  
Plate: 0309 row: M column: 12  
Seq primer: CGTTGTAAACGACGCGCCAGT  
Class: plasmid ends  
High quality sequence stop: 523.  
Location/Qualifiers  
1..523  
/organism="Mus musculus"  
/mol\_type="genomic DNA"  
/strain="C57BL/6J"  
/db\_xref="taxon:10090"  
/clone="UUGC1M0309M12"  
/sex="Male"  
/lab\_host="E. Coli strain XL10-Gold, Ti-resistant, F-"  
/clone\_lib="Mouse 10kb plasmid UUGC1M library"  
/note="Vector: PMD42nv; Purified genomic DNA from M.  
musculus C57BL/6J (male) was obtained from the Jackson  
Laboratory Mouse DNA Resource  
(http://www.jax.org/resources/documents/dnars/). The DNA  
was hydrodynamically sheared by repeated passage through a  
0.005 inch orifice at constant velocity. The sheared DNA  
was blunt end-repaired with T4 DNA polymerase and T4  
polynucleotide kinase. Adaptor oligonucleotides were  
ligated to the blunt ends in high molar excess. The  
ligated DNA was purified and size-selected for a 9.5 to

10.5 kb range using preparative agarose gel electrophoresis. Vector DNA was prepared from a derivative of pMD42 (gi|4732114|gb|AF129072.1), a copy-number inducible derivative of plasmid R1. The vector was ligated with adaptors complementary to the insert adaptors and purified. The sheared, adapted mouse DNA was annealed to adapted vector DNA, and transformed into chemically-competent *E. coli* XL10-Gold (Stratagene) cells and selected for ampicillin resistance."

## ORIGIN

Query Match 76.4%; Score 16.8; DB 8; Length 523;  
Best Local Similarity 90.0%; Pred. No. 9.7e+02;  
Matches 18; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

QY 3 ACTGTGACGTTGAGATGA 22  
|||||  
Db 376 ACTGTGACTTTCGAGATGA 395

## RESULT 37

AZ501799 526 bp DNA linear GSS 05-OCT-2000  
LOCUS 1M0340J17R Mouse 10kb plasmid UGCI1M library Mus musculus genomic  
DEFINITION c100340J17 R, genomic survey sequence.

ACCESSION AZ501799  
VERSION AZ501799.1 GI:10663115

KEYWORDS GSS.  
SOURCE Mus musculus (house mouse)

## ORGANISM

Mus musculus  
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;  
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus;  
1 (bases 1 to 526)  
Dunn, D., Ayaga, A., Barber, M., Beacorn, T., Duval, B., Hamil, C.,  
Islam, H., Longacre, S., Mahmoud, M., Meenen, E., Pedersen, T.,  
Reilly, M., Rose, M., Rose, R., Stokes, R., Tingey, A., von  
Niederhausen, A. and Wright, D., Weiss, R.  
Mouse whole genome scaffolding with paired end reads from 10kb  
plasmid inserts

## TITLE

Unpublished (2000)

## JOURNAL

COMMENT Contact: Robert B. Weiss  
University of Utah Genome Center  
Rm. 308, Biomedical Polymers Research Bldg., 20 S. 2030 E., SLC, UT  
84112, USA  
Tel: 801 585 5606  
Fax: 801 585 7177  
Email: ddunn@genetics.utah.edu  
Insert Length: 10000 Std Error: 0.00  
Plate: 0340 row: J column: 17  
Seq primer: CACACAGAAACAGCATATGACC  
Class: plasmid ends  
High quality sequence stop: 526.

Location/Qualifiers

## FEATURES

source

1. 526  
/organism="Mus musculus"  
/mol\_type="genomic DNA"  
/strain="C57BL/6J"  
/db\_xref="taxon:10090"  
/clone="UGCI1M0340J17"  
/sex="Male"  
/lab\_host="E. Coli strain XL10-Gold, T1-resistant, F-"  
/clone\_lib="Mouse 10kb plasmid UGCI1M library"  
/note="Vector: pMD42nv; Purified genomic DNA from M.  
musculus C57BL/6J (male) was obtained from the Jackson  
Laboratory Mouse DNA Resource  
(http://www.jax.org/resources/documents/dnares/). The DNA  
was hydrodynamically sheared by repeated passage through a  
0.005 inch orifice at constant velocity. The sheared DNA  
was blunt end-repaired with T4 DNA polymerase and T4  
polynucleotide kinase. Adaptor oligonucleotides were  
ligated to the blunt ends in high molar excess. The  
adapted DNA was purified and size-selected for a 9.5 to

10.5 kb range using preparative agarose gel electrophoresis. Vector DNA was prepared from a derivative of pMD42 (gi|4732114|gb|AF129072.1), a copy-number inducible derivative of plasmid R1. The vector was ligated with adaptors complementary to the insert adaptors and purified. The sheared, adapted mouse DNA was annealed to adapted vector DNA, and transformed into chemically-competent *E. coli* XL10-Gold (Stratagene) cells and selected for ampicillin resistance."

## ORIGIN

Query Match 76.4%; Score 16.8; DB 8; Length 526;  
Best Local Similarity 90.0%; Pred. No. 9.7e+02;  
Matches 18; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

QY 1 TGACGTGACGTTGAGAT 20  
|||||  
Db 60 TGACAGTGACGTTCTGAT 79

## RESULT 38

CA380211/c 628 bp mRNA linear EST 06-NOV-2002  
LOCUS 659460 NCCGWA 1RT Oncorhynchus mykiss cDNA clone 1RT49D04\_D\_B02 5',  
DEFINITION mRNA sequence.

ACCESSION CA380211  
VERSION CA380211.1 GI:24701684

KEYWORDS EST.  
SOURCE Oncorhynchus mykiss (rainbow trout)

## ORGANISM

Oncorhynchus mykiss  
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;  
Actinopterygii; Neopterygii; Teleostei; Euteleostei;  
Protacanthopterygii; Salmoniformes; Salmonidae; Oncorhynchus.  
1 (bases 1 to 628)  
Rexroad, C.B. 3rd, Lee, Y., Keele, J.W., Karamecheva, S., Brown, G.,  
Koop, B., Gahr, S.A., Palti, Y. and Quackenbush, J.  
Sequence analysis of a rainbow trout cDNA library and creation of a  
gene index  
Cytogenet. Genome Res. 102 (1-4), 347-354 (2003)

## TITLE

Unpublished (2003)

## JOURNAL

COMMENT Contact: Rexroad CE  
USDA, ARS, National Center for Cool and Cold Water Aquaculture  
11876 Leetown Road, Kearneysville, WV 25430, USA  
Tel: 304 724 8340 x2129  
Fax: 304 725 0351  
Email: crexroad@nccgwa.ars.usda.gov  
Single pass sequencing. Bases called with phred v0.020425.c and  
trimmed with the aid of the trim\_alc option. Vector identified by  
cross\_match v0.990329.

Seg primer: AGCGATACATTCACACAGCA.  
Location/Qualifiers

## FEATURES

source

1. 628  
/organism="Oncorhynchus mykiss"  
/mol\_type="mRNA"  
/db\_xref="taxon:8022"  
/clone="1RT49D04\_D\_B02"  
/tissue\_type="pooled"  
/lab\_host="DH10B"  
/clone\_lib="NCCGWA 1RT"  
/note="Vector: pCMV SPORT6; Site 1: NotI; Site 2: SalI;  
library made from pooled tissue from brain, gill, liver,  
spleen, muscle, and kidney."

## ORIGIN

Query Match 76.4%; Score 16.8; DB 6; Length 628;  
Best Local Similarity 90.0%; Pred. No. 1e+03;  
Matches 18; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

QY 3 ACTGTGACGTTGAGATGA 22  
|||||  
Db 138 ACTGAGACGTCGAGATGA 119

## RESULT 39

CB576172 645 bp mRNA linear EST 03-APR-2003  
LOCUS AMGNNUC:CDRG1-00006-H1-A cdirg1 (10898) Rattus norvegicus cDNA clone  
DEFINITION cdirg1-00006-h1 5', mRNA sequence.  
ACCESSION CB576172  
VERSION CB576172.1 GI:29520213  
KEYWORDS EST.  
SOURCE Rattus norvegicus (Norway rat)  
ORGANISM Rattus norvegicus  
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;  
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae;  
Rattus.  
REFERENCE 1 (bases 1 to 645)  
AUTHORS Amgen EST Program.  
TITLE Amgen Rat EST Program  
JOURNAL Unpublished (2003)  
COMMENT Contact: Dan Fitzpatrick  
Amgen, Inc  
One Amgen Center Drive, Thousand Oaks, CA 91320-1799, USA  
Tel: 805 447-4881  
Plate: 00006 row: h column: 1.  
Location/Qualifiers  
1..645  
/organism="Rattus norvegicus"  
/mol\_type="mRNA"  
/db\_xref="taxon:10116"  
/clone="cdrg1-00006-h1"  
/issue\_type="Chung Model Ipsilate"  
/clone\_1ib="cdrg1 (10898)"  
/note="Vector: pSPORT1; Chung Model Rat DRG Left L5/L6"

ORIGIN  
Query Match 76.4%; Score 16.8; DB 6; Length 645;  
Best Local Similarity 90.0%; Pred. No. 1e+03;  
Matches 18; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

QY 3 ACTGTGAACGTTGAGATGA 22  
|||||  
Db 424 ACTGTGACCTTCGAGATGA 443

RESULT 40  
CO079691 654 bp mRNA linear EST 15-JUN-2004  
LOCUS GR\_Ea42K15.f GR\_Ea Gossypium raimondii cDNA clone GR\_Ea42K15 5',  
DEFINITION mRNA sequence.  
ACCESSION CO079691  
VERSION CO079691.1 GI:48749172  
KEYWORDS EST.  
SOURCE Gossypium raimondii  
ORGANISM Gossypium raimondii  
Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;  
Spermatophyta; Magnoliophyta; eudicotyledons; core eudicots;  
rosids; eurosids II; Malvales; Malvaceae; Malvoideae; Gossypium.  
1 (bases 1 to 654)  
Kim.H., Yu.Y., Kudrna.D., Hatfield.J., Stum.D., Mueller.C.,  
Udall,J.A., Rapp,R.A., Wendel,J.F., Rao,K., Soderlund,C. and  
Wing,R.A.  
TITLE Global assembly of Cotton ESTs  
JOURNAL Unpublished (2004)  
COMMENT Contact: Rod A. Wing  
Arizona Genomics Institute  
The University of Arizona  
Forbes Building Room 303, Tucson, AZ, 85721-0036, USA  
Tel: 520 626 9595  
Fax: 520 621 1259  
Email: http://genome.arizona.edu  
Plate: 42 row: K column: 15.  
Location/Qualifiers  
1..654  
/organism="Gossypium raimondii"  
/mol\_type="mRNA"  
/db\_xref="taxon:29730"

FEATURES  
source

/clone="GR\_Ea42K15"  
/issue\_type="whole seedlings"  
/dev\_stage="first true leaves"  
/lab\_host="DH10B"  
/clone\_1ib="GR\_Ea"  
/note="Vector: pCMV.SPORT-6.1; Site 1: NotI; Site 2:  
EcoRV; library made by Invitrogen with RNA supplied by  
Wendle lab. Directional cloned into NotI-EV. Colonies  
plated/picked by AGI. More glycerol clones held in -80."

ORIGIN  
Query Match 76.4%; Score 16.8; DB 7; Length 654;  
Best Local Similarity 90.0%; Pred. No. 1e+03;  
Matches 18; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

QY 3 ACTGTGAACGTTGAGATGA 22  
|||||  
Db 636 ACTGTGACGTTGAGATGA 617

Search completed: October 30, 2004, 17:30:47  
Job time : 1479 secs

GenCore version 5.1.6  
Copyright (c) 1993 - 2004 CompuGen Ltd.

OM nucleic - nucleic search, using bw model

Run on: October 30, 2004, 17:55:42 ; Search time 1431 Seconds  
(without alignments)  
727.025 Million cell updates/sec

Title: US-09-802-376-1

Perfect score: 22  
Sequence: 1 tgaactgacgtcgcagatga 22

Scoring table: IDENTITY\_NUC  
Gapop 10.0 , Gapext 1.0

Searched: 4526729 seqs, 23644849745 residues

Total number of hits satisfying chosen parameters: 2172512

Minimum DB seq length: 0  
Maximum DB seq length: 100

Post-processing: Minimum Match 0%  
Maximum Match 100%  
Listing first 1000 summaries

Database :

Genemtbl:\*  
1: gb\_ba:\*  
2: gb\_hcg:\*  
3: gb\_in:\*  
4: gb\_om:\*  
5: gb\_ov:\*  
6: gb\_pat:\*  
7: gb\_ph:\*  
8: gb\_pl:\*  
9: gb\_pr:\*  
10: gb\_ro:\*  
11: gb\_sce:\*  
12: gb\_sy:\*  
13: gb\_un:\*  
14: gb\_vl:\*

Pred. No. is the number of results predicted by chance to have a  
score greater than or equal to the score of the result being printed,  
and is derived by analysis of the total score distribution.

#### SUMMARIES

Result No.	Score	Query Match	Length	ID	Description
1	22	100.0	22	6	BD182369
2	22	100.0	22	6	BD185615 Anti-tumo
3	22	100.0	22	6	BD190435
4	22	100.0	22	6	BD228690
5	22	100.0	22	6	BD233617
6	22	100.0	22	6	BD251283
7	22	100.0	22	6	BD272057 Use of st
8	22	100.0	22	6	AR268334
9	22	100.0	22	6	AR287741
10	22	100.0	22	6	AR287743
11	22	100.0	22	6	AR308057
12	22	100.0	22	6	AR352573
13	22	100.0	22	6	AR392162
14	22	100.0	22	6	AR392162
15	22	100.0	22	6	AX036945
16	22	100.0	22	6	AX046993
17	22	100.0	22	6	AX083675
18	22	100.0	22	6	AX135650
19	22	100.0	22	6	AX148636

20	22	100.0	22	6	AX250701	AX250701 Sequence
21	22	100.0	22	6	AX252291	AX252291 Sequence
22	22	100.0	22	6	AX252509	AX252509 Sequence
23	22	100.0	22	6	AX252520	AX252520 Sequence
24	22	100.0	22	6	AX252934	AX252934 Sequence
25	22	100.0	22	6	AX253113	AX253113 Sequence
26	22	100.0	22	6	AX253123	AX253123 Sequence
27	22	100.0	22	6	AX468499	AX468499 Sequence
28	22	100.0	22	6	AX592312	AX592312 Sequence
29	22	100.0	22	6	AX592350	AX592350 Sequence
30	22	100.0	22	6	AX592369	AX592369 Sequence
31	22	100.0	22	6	AX720306	AX720306 Sequence
32	22	100.0	22	6	BD009235	BD009235 Immunost
33	22	96.4	22	6	AX250707	AX250707 Sequence
34	21	95.5	22	6	BD233630	BD233630 Immunost
35	21	95.5	22	6	AR352586	AR352586 Sequence
36	21	95.5	22	6	AX083681	AX083681 Sequence
37	21	95.5	22	6	AX148642	AX148642 Sequence
38	21	95.5	22	6	AX252297	AX252297 Sequence
39	21	95.5	22	6	AX252515	AX252515 Sequence
40	21	95.5	22	6	AX252526	AX252526 Sequence
41	21	95.5	22	6	AX252940	AX252940 Sequence
42	21	95.5	22	6	AX253119	AX253119 Sequence
43	21	95.5	22	6	AX253129	AX253129 Sequence
44	21	95.5	22	6	AX592341	AX592341 Sequence
45	21	95.5	22	6	AX592347	AX592347 Sequence
46	21	95.5	22	6	AX592351	AX592351 Sequence
47	21	95.5	22	6	AX592357	AX592357 Sequence
48	20.4	92.7	22	6	AR148608	AR148608 Sequence
49	20.4	92.7	22	6	BD233616	BD233616 Immunost
50	20.4	92.7	22	6	BD233620	BD233620 Immunost
51	20.4	92.7	22	6	BD233621	BD233621 Immunost
52	20.4	92.7	22	6	BD272058	BD272058 Use of st
53	20.4	92.7	22	6	AR287742	AR287742 Sequence
54	20.4	92.7	22	6	AR287744	AR287744 Sequence
55	20.4	92.7	22	6	AR308058	AR308058 Sequence
56	20.4	92.7	22	6	AR352572	AR352572 Sequence
57	20.4	92.7	22	6	AR352576	AR352576 Sequence
58	20.4	92.7	22	6	AR352577	AR352577 Sequence
59	20.4	92.7	22	6	AR392165	AR392165 Sequence
60	20.4	92.7	22	6	AR392166	AR392166 Sequence
61	20.4	92.7	22	6	AR392167	AR392167 Sequence
62	20.4	92.7	22	6	AX036946	AX036946 Sequence
63	20.4	92.7	22	6	AX083676	AX083676 Sequence
64	20.4	92.7	22	6	AX083678	AX083678 Sequence
65	20.4	92.7	22	6	AX148637	AX148637 Sequence
66	20.4	92.7	22	6	AX148639	AX148639 Sequence
67	20.4	92.7	22	6	AX250702	AX250702 Sequence
68	20.4	92.7	22	6	AX250704	AX250704 Sequence
69	20.4	92.7	22	6	AX250708	AX250708 Sequence
70	20.4	92.7	22	6	AX252292	AX252292 Sequence
71	20.4	92.7	22	6	AX252294	AX252294 Sequence
72	20.4	92.7	22	6	AX252510	AX252510 Sequence
73	20.4	92.7	22	6	AX252512	AX252512 Sequence
74	20.4	92.7	22	6	AX252521	AX252521 Sequence
75	20.4	92.7	22	6	AX252523	AX252523 Sequence
76	20.4	92.7	22	6	AX252935	AX252935 Sequence
77	20.4	92.7	22	6	AX252937	AX252937 Sequence
78	20.4	92.7	22	6	AX253114	AX253114 Sequence
79	20.4	92.7	22	6	AX253116	AX253116 Sequence
80	20.4	92.7	22	6	AX253124	AX253124 Sequence
81	20.4	92.7	22	6	AX253126	AX253126 Sequence
82	20.4	92.7	22	6	BD136175	BD136175 Inhibitor
83	20.2	91.8	22	6	AX148643	AX148643 Sequence
84	20.2	91.8	22	6	AX252527	AX252527 Sequence
85	20.2	91.8	22	6	AX252941	AX252941 Sequence
86	20	90.9	22	6	BD233631	BD233631 Immunost
87	20	90.9	22	6	AR352587	AR352587 Sequence
88	20	90.9	22	6	AX083682	AX083682 Sequence
89	20	90.9	22	6	AX174913	AX174913 Sequence
90	20	90.9	22	6	AX252298	AX252298 Sequence
91	20	90.9	22	6	AX252516	AX252516 Sequence
92	20	90.9	22	6	AX253120	AX253120 Sequence

93	20	90.9	22	6	AX253130	AX253130 Sequence	166	17.2	78.2	22	6	AX592319	AX592319 Sequence
94	20	90.9	22	6	AX592348	AX592348 Sequence	167	17.2	78.2	22	6	AX592326	AX592326 Sequence
95	20	90.9	22	6	AX592358	AX592358 Sequence	168	17.2	78.2	22	6	AX592331	AX592331 Sequence
96	19.6	89.1	22	6	AX250706	AX250706 Sequence	169	17.2	78.2	22	6	BD136177	BD136177 Inhibitor
97	19.4	88.2	22	6	BD233627	BD233627 Immunost	170	17	77.3	22	6	AX592322	AX592322 Sequence
98	19.4	88.2	22	6	AR352583	AR352583 Sequence	171	17	77.3	22	6	AX592355	AX592355 Sequence
99	19.4	88.2	22	6	AX083680	AX083680 Sequence	172	17	77.3	22	6	AX592356	AX592356 Sequence
100	19.4	88.2	22	6	AX148641	AX148641 Sequence	173	16.4	74.5	18	6	AX592325	AX592325 Sequence
101	19.4	88.2	22	6	AX252296	AX252296 Sequence	174	16.4	74.5	100	6	AX592363	AX592363 Sequence
102	19.4	88.2	22	6	AX252514	AX252514 Sequence	175	15.8	71.8	18	6	AX998660	AX998660 Sequence
103	19.4	88.2	22	6	AX252525	AX252525 Sequence	176	15.6	70.9	22	6	AR148611	AR148611 Sequence
104	19.4	88.2	22	6	AX252939	AX252939 Sequence	177	15.6	70.9	22	6	AR148613	AR148613 Sequence
105	19.4	88.2	22	6	AX253118	AX253118 Sequence	178	15.6	70.9	22	6	AR148614	AR148614 Sequence
106	19.4	88.2	22	6	AX253128	AX253128 Sequence	179	15.6	70.9	22	6	AR392163	AR392163 Sequence
107	19.4	88.2	22	6	AX592349	AX592349 Sequence	180	15.6	70.9	22	6	AX592320	AX592320 Sequence
108	18.8	85.5	22	6	AR148607	AR148607 Sequence	181	15.6	70.9	22	6	BD136178	BD136178 Inhibitor
109	18.8	85.5	22	6	AR148609	AR148609 Sequence	182	15.6	70.9	22	6	BD136180	BD136180 Inhibitor
110	18.8	85.5	22	6	AR148616	AR148616 Sequence	183	15.6	70.9	22	6	BD136181	BD136181 Inhibitor
111	18.8	85.5	22	6	BD190436	BD190436 Microemul	184	15.6	70.9	93	4	EMA270463	AJ7270463 Elephas m
112	18.8	85.5	22	6	BD28691	BD28691 Methods a	185	15.4	70.0	18	6	AX592339	AX592339 Sequence
113	18.8	85.5	22	6	BD233618	BD233618 Immunost	186	15.4	70.0	21	6	BD233625	BD233625 Immunost
114	18.8	85.5	22	6	BD233623	BD233623 Immunost	187	15.4	70.0	21	6	AR352581	AR352581 Sequence
115	18.8	85.5	22	6	BD251284	BD251284 Enhanceme	188	15.4	70.0	23	6	BD233626	BD233626 Immunost
116	18.8	85.5	22	6	BD272056	BD272056 Use of st	189	15.4	70.0	23	6	AR352582	AR352582 Sequence
117	18.8	85.5	22	6	BD272064	BD272064 Use of st	190	15	68.2	21	6	AX592442	AX592442 Sequence
118	18.8	85.5	22	6	AR268335	AR268335 Sequence	191	15	68.2	23	6	BD233619	BD233619 Immunost
119	18.8	85.5	22	6	AR287745	AR287745 Sequence	192	15	68.2	23	6	AR352575	AR352575 Sequence
120	18.8	85.5	22	6	AR308059	AR308059 Sequence	193	15	68.2	23	6	AX083677	AX083677 Sequence
121	18.8	85.5	22	6	AR352574	AR352574 Sequence	194	15	68.2	23	6	AX148638	AX148638 Sequence
122	18.8	85.5	22	6	AR352579	AR352579 Sequence	195	15	68.2	23	6	AX250703	AX250703 Sequence
123	18.8	85.5	22	6	AR381159	AR381159 Sequence	196	15	68.2	23	6	AX252293	AX252293 Sequence
124	18.8	85.5	22	6	AR392164	AR392164 Sequence	197	15	68.2	23	6	AX252511	AX252511 Sequence
125	18.8	85.5	22	6	AR392169	AR392169 Sequence	198	15	68.2	23	6	AX252522	AX252522 Sequence
126	18.8	85.5	22	6	AX036944	AX036944 Sequence	199	15	68.2	23	6	AX252936	AX252936 Sequence
127	18.8	85.5	22	6	AX036952	AX036952 Sequence	200	15	68.2	23	6	AX253115	AX253115 Sequence
128	18.8	85.5	22	6	AX156651	AX156651 Sequence	201	15	68.2	23	6	AX253125	AX253125 Sequence
129	18.8	85.5	22	6	AX148644	AX148644 Sequence	202	14.8	67.3	18	6	AX592324	AX592324 Sequence
130	18.8	85.5	22	6	AX148645	AX148645 Sequence	203	14.6	66.4	75	6	CQ556293	CQ556293 Sequence
131	18.8	85.5	22	6	AX252518	AX252518 Sequence	204	14.6	66.4	72	11	G42179	G42179 NMS09 Human
132	18.8	85.5	22	6	AX252519	AX252519 Sequence	205	14.2	64.5	51	6	CQ007200	CQ007200 Sequence
133	18.8	85.5	22	6	AX252528	AX252528 Sequence	206	14	63.6	19	6	AX592329	AX592329 Sequence
134	18.8	85.5	22	6	AX252529	AX252529 Sequence	207	14	63.6	19	6	AX592333	AX592333 Sequence
135	18.8	85.5	22	6	AX252942	AX252942 Sequence	208	14	63.6	19	6	AX592334	AX592334 Sequence
136	18.8	85.5	22	6	AX252943	AX252943 Sequence	209	14	63.6	20	6	AX592365	AX592365 Sequence
137	18.8	85.5	22	6	AX253121	AX253121 Sequence	210	14	63.6	22	6	AX592340	AX592340 Sequence
138	18.8	85.5	22	6	AX253131	AX253131 Sequence	211	14	63.6	65	6	CQ556496	CQ556496 Sequence
139	18.8	85.5	22	6	AX253134	AX253134 Sequence	212	14	63.6	77	6	I40727	I40727 Sequence 58
140	18.8	85.5	22	6	AX468500	AX468500 Sequence	213	14	63.6	93	4	MIA270467	AJ7270467 Micropora
141	18.8	85.5	22	6	AX592318	AX592318 Sequence	214	14	63.6	95	6	AR165693	AR165693 Sequence
142	18.8	85.5	22	6	AX592359	AX592359 Sequence	215	14	63.6	95	6	AR304889	AR304889 Sequence
143	18.8	85.5	22	6	AX592360	AX592360 Sequence	216	13.8	62.7	51	6	AR443691	AR443691 Sequence
144	18.8	85.5	22	6	AX592370	AX592370 Sequence	217	13.6	61.8	41	6	AX514818	AX514818 Sequence
145	18.8	85.5	22	6	AX592371	AX592371 Sequence	218	13.6	61.8	41	6	AX517176	AX517176 Sequence
146	18.8	85.5	22	6	AX720307	AX720307 Sequence	219	13.6	61.8	51	6	CQ007768	CQ007768 Sequence
147	18.8	85.5	22	6	BD009236	BD009236 Immunost	220	13.6	61.8	60	6	CQ546444	CQ546444 Sequence
148	18.8	85.5	22	6	BD136174	BD136174 Inhibitor	221	13.6	61.8	62	6	BD225791	BD225791 Screening
149	18.8	85.5	22	6	BD136176	BD136176 Inhibitor	222	13.6	61.8	77	6	AX011500	AX011500 Sequence
150	18.8	85.5	22	6	BD136183	BD136183 Inhibitor	223	13.6	61.8	77	6	AR125945	AR125945 Sequence
151	18	81.8	18	6	AX592354	AX592354 Sequence	224	13.6	61.8	77	6	I47265	I47265 Sequence 19
152	17.8	80.9	22	6	AX592343	AX592343 Sequence	225	13.6	61.8	85	6	CQ079579	CQ079579 Sequence
153	17.8	80.9	22	6	AX592344	AX592344 Sequence	226	13.6	61.8	85	6	CQ111643	CQ111643 Sequence
154	17.8	80.9	22	6	AX592352	AX592352 Sequence	227	13.6	61.8	85	6	CQ150433	CQ150433 Sequence
155	17.8	80.9	22	6	AX592353	AX592353 Sequence	228	13.6	61.8	85	6	CQ184778	CQ184778 Sequence
156	17.2	78.2	22	6	AR148610	AR148610 Sequence	229	13.6	61.8	85	6	CQ233746	CQ233746 Sequence
157	17.2	78.2	22	6	BD190437	BD190437 Microemul	230	13.6	61.8	85	6	CQ271585	CQ271585 Sequence
158	17.2	78.2	22	6	BD233624	BD233624 Immunost	231	13.6	61.8	85	6	CQ309068	CQ309068 Sequence
159	17.2	78.2	22	6	BD233628	BD233628 Immunost	232	13.6	61.8	85	6	CQ345767	CQ345767 Sequence
160	17.2	78.2	22	6	BD251285	BD251285 Enhanceme	233	13.6	61.8	93	9	HSP45B8	HSP45B8 Sequence
161	17.2	78.2	22	6	AR352580	AR352580 Sequence	234	13.6	61.8	93	10	AY041811	AY041811 Thomaomy
162	17.2	78.2	22	6	AR352584	AR352584 Sequence	235	13.6	61.8	97	6	I35460	I35460 Sequence 11
163	17.2	78.2	22	6	AR392170	AR392170 Sequence	236	13.6	61.8	98	6	I35457	I35457 Sequence 8
164	17.2	78.2	22	6	AX135652	AX135652 Sequence	237	13.6	61.8	98	6	I35468	I35468 Sequence 19
165	17.2	78.2	22	6	AX468501	AX468501 Sequence	238	13.6	61.8	98	6	I35471	I35471 Sequence 22

C 239	13.6	61.8	98 6	I35473	I35473 Sequence 24	312	12.6	57.3	42 6	AX356821	AX356821 Sequence
C 240	13.4	60.9	71 6	A44231	A44231 Sequence 12	C 313	12.6	57.3	42 6	AX356822	AX356822 Sequence
C 241	13.4	60.9	71 6	A72728	A72728 Sequence 22	C 314	12.6	57.3	42 6	AX356824	AX356824 Sequence
C 242	13.4	60.9	83 14	AR408862	AR408862 Sequence	C 315	12.6	57.3	57 6	AR134789	AR134789 Sequence
C 243	13.4	60.9	83 14	CYERRR	M58311 Clitoria Ye	C 316	12.6	57.3	57 6	AR274457	AR274457 Sequence
C 244	13.2	60.0	36 6	AR136900	AR136900 Sequence	C 317	12.6	57.3	59 6	I33576	I33576 Sequence 7
C 245	13.2	60.0	59 6	BD225616	BD225616 Screening	C 318	12.6	57.3	60 6	CQ540285	CQ540285 Sequence
C 246	13.2	60.0	59 6	AX011325	AX011325 Sequence	C 319	12.6	57.3	60 6	CQ541013	CQ541013 Sequence
C 247	13.2	60.0	65 6	CQ532915	CQ532915 Sequence	C 320	12.6	57.3	61 6	CQ549719	CQ549719 Sequence
C 248	13.2	60.0	65 6	CQ558045	CQ558045 Sequence	C 321	12.6	57.3	61 6	I21559	I21559 Sequence 10
C 249	13.2	60.0	74 6	AR273849	AR273849 Sequence	C 322	12.6	57.3	61 6	AX270709	AX270709 Sequence
C 250	13.2	60.0	74 6	AR277430	AR277430 Sequence	C 323	12.6	57.3	61 6	AX272240	AX272240 Sequence
C 251	13.2	60.0	74 6	AR407705	AR407705 Sequence	C 324	12.6	57.3	61 6	CQ534823	CQ534823 Sequence
C 252	13.2	60.0	74 6	AR441555	AR441555 Sequence	C 325	12.6	57.3	65 6	CQ555311	CQ555311 Sequence
C 253	13.2	60.0	74 6	AX368882	AX368882 Sequence	C 326	12.6	57.3	65 6	CQ557856	CQ557856 Sequence
C 254	13.2	60.0	77 6	AR012736	AR012736 Sequence	C 327	12.6	57.3	76 6	AR009189	AR009189 Sequence
C 255	13.2	60.0	77 6	AR077046	AR077046 Sequence	C 328	12.6	57.3	76 6	I32455	I32455 Sequence 37
C 256	13.2	60.0	77 6	AR092081	AR092081 Sequence	C 329	12.6	57.3	77 6	AR042612	AR042612 Sequence
C 257	13.2	60.0	77 6	AR369363	AR369363 Sequence	C 330	12.6	57.3	77 6	AR064745	AR064745 Sequence
C 258	13.2	60.0	87 6	AX534757	AX534757 Sequence	C 331	12.6	57.3	77 6	AR476769	AR476769 Sequence
C 259	13.2	60.0	97 6	I35453	I35453 Sequence 4	C 332	12.6	57.3	82 6	E31028	E31028 Method for
C 260	13.2	60.0	98 6	I35456	I35456 Sequence 7	C 333	12.6	57.3	93 9	HSPA5E3	Z79363 H. sapiens f
C 261	13	59.1	20 6	AX592330	AX592330 Sequence	C 334	12.6	57.3	98 6	I35451	I35451 Sequence 2
C 262	13	59.1	30 6	AR261690	AR261690 Sequence	C 335	12.4	56.4	19 6	AX592366	AX592366 Sequence
C 263	13	59.1	34 6	BD091493	BD091493 Process f	C 336	12.4	56.4	19 6	AX592367	AX592367 Sequence
C 264	13	59.1	34 6	BD091522	BD091522 Method fo	C 337	12.4	56.4	20 6	AR146229	AR146229 Sequence
C 265	13	59.1	60 6	AR134787	AR134787 Sequence	C 338	12.4	56.4	20 6	BD205521	BD205521 Method of
C 266	13	59.1	60 6	CQ548261	CQ548261 Sequence	C 339	12.4	56.4	20 6	BD261063	BD261063 Methods a
C 267	13	59.1	60 6	CQ553286	CQ553286 Sequence	C 340	12.4	56.4	20 6	BD261313	BD261313 Methods a
C 268	13	59.1	60 6	AR274455	AR274455 Sequence	C 341	12.4	56.4	20 6	BD267836	BD267836 Methods f
C 269	13	59.1	65 6	CQ532990	CQ532990 Sequence	C 342	12.4	56.4	20 6	BD270818	BD270818 Stereolo
C 270	13	59.1	87 9	AF267797	AF267797 Homo sapl	C 343	12.4	56.4	20 6	AR213889	AR213889 Sequence
C 271	13	59.1	91 6	CQ306864	CQ306864 Sequence	C 344	12.4	56.4	20 6	AX105150	AX105150 Sequence
C 272	13	59.1	94 1	UEU34366	UEU34366 Unidentifie	C 345	12.4	56.4	20 6	AX786600	AX786600 Sequence
C 273	13	59.1	95 11	CR382277	CR382277 Arabidops	C 346	12.4	56.4	22 6	AR372919	AR372919 Sequence
C 274	13	59.1	100 6	AX999715	AX999715 Sequence	C 347	12.4	56.4	23 6	AR213653	AR213653 Sequence
C 275	12.8	58.2	20 6	AR310804	AR310804 Sequence	C 348	12.4	56.4	23 6	BD081541	BD081541 Fuslon pr
C 276	12.8	58.2	30 6	AR201030	AR201030 Sequence	C 349	12.4	56.4	23 6	BD081541	BD081541 Soluble s
C 277	12.8	58.2	30 6	AX969081	AX969081 Sequence	C 350	12.4	56.4	24 6	AR372917	AR372917 Sequence
C 278	12.8	58.2	30 6	BD009773	BD009773 Humanized	C 351	12.4	56.4	24 6	AX291151	AX291151 Sequence
C 279	12.8	58.2	31 6	AR126483	AR126483 Sequence	C 352	12.4	56.4	26 6	A90912	A90912 Sequence 19
C 280	12.8	58.2	36 6	A42831	A42831 Sequence 16	C 353	12.4	56.4	26 6	BD187822	BD187822 A stress-
C 281	12.8	58.2	41 6	I87337	I87337 Sequence 16	C 354	12.4	56.4	26 8	S71815S2	S71817 Lycopersico
C 282	12.8	58.2	41 6	E43978	E43978 Variant glu	C 355	12.4	56.4	34 6	A79460	A79460 Sequence 2
C 283	12.8	58.2	41 6	AX514542	AX514542 Sequence	C 356	12.4	56.4	34 6	AR023810	AR023810 Sequence
C 284	12.8	58.2	41 6	AX520133	AX520133 Sequence	C 357	12.4	56.4	34 6	AR141590	AR141590 Sequence
C 285	12.8	58.2	60 6	CQ550470	CQ550470 Sequence	C 358	12.4	56.4	34 6	AR195104	AR195104 Sequence
C 286	12.8	58.2	77 6	AR042608	AR042608 Sequence	C 359	12.4	56.4	34 6	AR262024	AR262024 Sequence
C 287	12.8	58.2	77 6	AR064741	AR064741 Sequence	C 360	12.4	56.4	34 6	AR454697	AR454697 Sequence
C 288	12.8	58.2	77 6	AR476765	AR476765 Sequence	C 361	12.4	56.4	34 6	BD001887	BD001887 Lumazide
C 289	12.6	57.3	19 6	BD246796	BD246796 Method fo	C 362	12.4	56.4	42 8	ATH528844	ATH528844 Arabidops
C 290	12.6	57.3	19 6	AR209761	AR209761 Sequence	C 363	12.4	56.4	51 6	AX118333	AX118333 Sequence
C 291	12.6	57.3	23 6	A04167	A04167 Synthetic o	C 364	12.4	56.4	55 6	BD073245	BD073245 Modified
C 292	12.6	57.3	25 6	CQ787525	CQ787525 Sequence	C 365	12.4	56.4	59 6	AR069372	AR069372 Sequence
C 293	12.6	57.3	25 6	AX609036	AX609036 Sequence	C 366	12.4	56.4	60 6	CQ539242	CQ539242 Sequence
C 294	12.6	57.3	25 6	AX814763	AX814763 Sequence	C 367	12.4	56.4	60 6	CQ540755	CQ540755 Sequence
C 295	12.6	57.3	26 6	AX825670	AX825670 Sequence	C 368	12.4	56.4	60 6	CQ543383	CQ543383 Sequence
C 296	12.6	57.3	26 6	A42817	A42817 Sequence 14	C 369	12.4	56.4	60 6	CQ546731	CQ546731 Sequence
C 297	12.6	57.3	26 6	I87323	I87323 Sequence 14	C 370	12.4	56.4	60 6	CQ548196	CQ548196 Sequence
C 298	12.6	57.3	26 6	AX592010	AX592010 Sequence	C 371	12.4	56.4	60 6	CQ530581	CQ530581 Sequence
C 299	12.6	57.3	26 6	AX592028	AX592028 Sequence	C 372	12.4	56.4	60 6	CQ530581	CQ530581 Sequence
C 300	12.6	57.3	27 6	A28065	A28065 GAD sequence	C 373	12.4	56.4	65 6	CQ534921	CQ534921 Sequence
C 301	12.6	57.3	27 6	AR058238	AR058238 Sequence	C 374	12.4	56.4	65 6	CQ554186	CQ554186 Sequence
C 302	12.6	57.3	27 6	AR145356	AR145356 Sequence	C 375	12.4	56.4	65 6	CQ558649	CQ558649 Sequence
C 303	12.6	57.3	27 6	AX393512	AX393512 Sequence	C 376	12.4	56.4	65 6	CQ559669	CQ559669 Sequence
C 304	12.6	57.3	30 6	AX799959	AX799959 Sequence	C 377	12.4	56.4	65 6	CQ560104	CQ560104 Sequence
C 305	12.6	57.3	30 6	BD084069	BD084069 Envrionme	C 378	12.4	56.4	69 6	AX023565	AX023565 Sequence
C 306	12.6	57.3	39 6	BD093384	BD093384 Envrionme	C 379	12.4	56.4	73 6	AR012418	AR012418 Sequence
C 307	12.6	57.3	39 6	AX391236	AX391236 Sequence	C 380	12.4	56.4	73 6	AR020246	AR020246 Sequence
C 308	12.6	57.3	39 6	AX399561	AX399561 Sequence	C 381	12.4	56.4	73 6	AR109267	AR109267 Sequence
C 309	12.6	57.3	42 6	AX356813	AX356813 Sequence	C 382	12.4	56.4	73 6	I82592	I82592 Sequence 33
C 310	12.6	57.3	42 6	AX356815	AX356815 Sequence	C 383	12.4	56.4	73 6	AR368458	AR368458 Sequence
C 311	12.6	57.3	42 6	AX356819	AX356819 Sequence	C 384	12.4	56.4	73 6	AR391650	AR391650 Sequence

385	12.4	56.4	76	6	AR009194	AR009194 Sequence	C 458	12.2	55.5	87	6	BD177567	BD177567 Anti-IgE
386	12.4	56.4	76	6	I32460	I32460 Sequence 42	C 459	12.2	55.5	87	6	AX404020	AX404020 Sequence
387	12.4	56.4	81	6	I40754	I40754 Sequence 85	C 460	12.2	55.5	87	6	BD086883	BD086883 Nucleic a
388	12.4	56.4	82	11	BX295187	BX295187 Arabidops	C 461	12.2	55.5	93	6	I35484	I35484 Sequence 35
C 389	12.4	56.4	84	3	AY601483	AY601483 Apis mell	C 462	12.2	55.5	97	11	HSU57850	U57850 Human Clone
390	12.4	56.4	93	4	AH0270468	AJ270468 Amblysomu	C 463	12.2	55.5	98	6	I35452	I35452 Sequence 3
391	12.4	56.4	93	4	DDU270464	AJ270464 Dugong du	C 464	12.2	55.5	98	6	I35465	I35465 Sequence 16
392	12.4	56.4	93	4	EBC270465	AJ270465 Erinaceus	C 465	12.2	55.5	98	6	I35475	I35475 Sequence 26
393	12.4	56.4	100	6	AX523289	AX523289 Sequence	C 466	12.2	55.5	98	6	I35476	I35476 Sequence 27
C 394	12.4	56.4	100	6	AX989753	AX989753 Sequence	C 467	12.2	55.5	98	6	I35477	I35477 Sequence 28
395	12.4	56.4	100	6	AX996297	AX996297 Sequence	C 468	12.2	55.5	100	6	CO001338	CO001338 Sequence
396	12.4	56.4	100	6	AX996298	AX996298 Sequence	C 469	12.2	55.5	100	6	AX996351	AX996351 Sequence
397	12.4	56.4	100	6	AX996299	AX996299 Sequence	C 470	12.2	55.5	100	6	AX996950	AX996950 Sequence
C 398	12.4	56.4	100	6	AX998472	AX998472 Sequence	C 471	12	55.5	21	6	AR224710	AR224710 Sequence
C 399	12.2	55.5	17	6	AR433670	AR433670 Sequence	C 472	12	55.5	20	6	AX498243	AX498243 Sequence
C 400	12.2	55.5	17	6	AX649338	AX649338 Sequence	C 473	12	54.5	22	6	AR372905	AR372905 Sequence
C 401	12.2	55.5	21	6	CO78124	CO78124 Sequence	C 474	12	54.5	22	6	AR372907	AR372907 Sequence
C 402	12.2	55.5	23	6	AX767047	AX767047 Sequence	C 475	12	54.5	22	6	AR372911	AR372911 Sequence
C 403	12.2	55.5	24	6	AX433770	AX433770 Sequence	C 476	12	54.5	22	6	AR372913	AR372913 Sequence
C 404	12.2	55.5	24	6	AX493808	AX493808 Sequence	C 477	12	54.5	24	6	AX289471	AX289471 Sequence
C 405	12.2	55.5	25	6	AR434485	AR434485 Sequence	C 478	12	54.5	24	6	AX444515	AX444515 Sequence
C 406	12.2	55.5	25	6	AR434486	AR434486 Sequence	C 479	12	54.5	26	6	AX741783	AX741783 Sequence
C 407	12.2	55.5	25	6	AR434487	AR434487 Sequence	C 480	12	54.5	26	6	AX741784	AX741784 Sequence
C 408	12.2	55.5	25	6	AR434488	AR434488 Sequence	C 481	12	54.5	31	6	AX248314	AX248314 Sequence
C 409	12.2	55.5	25	6	AR434489	AR434489 Sequence	C 482	12	54.5	34	6	AX128302	AX128302 Sequence
C 410	12.2	55.5	25	6	AR434490	AR434490 Sequence	C 483	12	54.5	39	6	AR225171	AR225171 Sequence
C 411	12.2	55.5	25	6	AR434491	AR434491 Sequence	C 484	12	54.5	42	6	AR034467	AR034467 Sequence
C 412	12.2	55.5	25	6	AR434492	AR434492 Sequence	C 485	12	54.5	42	6	AR070412	AR070412 Sequence
C 413	12.2	55.5	25	6	AR434493	AR434493 Sequence	C 486	12	54.5	42	6	AR083406	AR083406 Sequence
C 414	12.2	55.5	25	6	AX650902	AX650902 Sequence	C 487	12	54.5	50	9	AP288874	AP288874 Homo sapi
C 415	12.2	55.5	25	6	AX650903	AX650903 Sequence	C 488	12	54.5	51	6	AX159641	AX159641 Sequence
C 416	12.2	55.5	25	6	AX650904	AX650904 Sequence	C 489	12	54.5	53	6	AR381761	AR381761 Sequence
C 417	12.2	55.5	25	6	AX650905	AX650905 Sequence	C 490	12	54.5	53	6	AX180172	AX180172 Sequence
C 418	12.2	55.5	25	6	AX650906	AX650906 Sequence	C 491	12	54.5	53	6	AX180672	AX180672 Sequence
C 419	12.2	55.5	25	6	AX650907	AX650907 Sequence	C 492	12	54.5	53	6	AX406489	AX406489 Sequence
C 420	12.2	55.5	25	6	AX650908	AX650908 Sequence	C 493	12	54.5	55	6	AX899270	AX899270 Sequence
C 421	12.2	55.5	25	6	AX650909	AX650909 Sequence	C 494	12	54.5	55	6	BD034803	BD034803 Sequence
C 422	12.2	55.5	25	6	AX650910	AX650910 Sequence	C 495	12	54.5	60	6	CO355919	CO355919 Sequence
C 423	12.2	55.5	26	6	AR215341	AR215341 Sequence	C 496	12	54.5	60	6	CO338561	CO338561 Sequence
C 424	12.2	55.5	29	6	AR275152	AR275152 Sequence	C 497	12	54.5	60	6	CO545633	CO545633 Sequence
C 425	12.2	55.5	29	6	AR275658	AR275658 Sequence	C 498	12	54.5	60	6	CO547547	CO547547 Sequence
C 426	12.2	55.5	29	6	AR302385	AR302385 Sequence	C 499	12	54.5	60	6	CO548847	CO548847 Sequence
C 427	12.2	55.5	38	6	BD266550	BD266550 Universal	C 500	12	54.5	60	6	CO549921	CO549921 Sequence
C 428	12.2	55.5	39	6	AX391232	AX391232 Sequence	C 501	12	54.5	60	6	CO561819	CO561819 Sequence
C 429	12.2	55.5	39	6	AX399557	AX399557 Sequence	C 502	12	54.5	65	6	CO532465	CO532465 Sequence
C 430	12.2	55.5	42	6	AX711341	AX711341 Sequence	C 503	12	54.5	65	6	CO554283	CO554283 Sequence
C 431	12.2	55.5	45	6	AX711339	AX711339 Sequence	C 504	12	54.5	65	6	CO554447	CO554447 Sequence
C 432	12.2	55.5	51	6	AR433688	AR433688 Sequence	C 505	12	54.5	65	6	AX482849	AX482849 Sequence
C 433	12.2	55.5	51	6	AR433690	AR433690 Sequence	C 506	12	54.5	65	6	AX485807	AX485807 Sequence
C 434	12.2	55.5	60	6	CO542113	CO542113 Sequence	C 507	12	54.5	66	6	BD221869	BD221869 Nucleic a
C 435	12.2	55.5	60	6	CO544277	CO544277 Sequence	C 508	12	54.5	66	6	AR211799	AR211799 Sequence
C 436	12.2	55.5	60	6	CO548144	CO548144 Sequence	C 509	12	54.5	67	6	AX496839	AX496839 Sequence
C 437	12.2	55.5	60	6	CO548458	CO548458 Sequence	C 510	12	54.5	73	6	AR012412	AR012412 Sequence
C 438	12.2	55.5	60	6	CO549003	CO549003 Sequence	C 511	12	54.5	73	6	AR020240	AR020240 Sequence
C 439	12.2	55.5	65	6	CO533768	CO533768 Sequence	C 512	12	54.5	73	6	AR109261	AR109261 Sequence
C 440	12.2	55.5	65	6	CO533906	CO533906 Sequence	C 513	12	54.5	73	6	I82586	I82586 Sequence 27
C 441	12.2	55.5	65	6	CO560376	CO560376 Sequence	C 514	12	54.5	73	6	AR368452	AR368452 Sequence
C 442	12.2	55.5	65	6	CO560785	CO560785 Sequence	C 515	12	54.5	73	6	AR391644	AR391644 Sequence
C 443	12.2	55.5	65	6	CO561204	CO561204 Sequence	C 516	12	54.5	74	6	AR012411	AR012411 Sequence
C 444	12.2	55.5	74	1	MCTRIG	XI6749 Mycoplasma	C 517	12	54.5	74	6	AR020239	AR020239 Sequence
C 445	12.2	55.5	74	1	MYCTRG	K00202 M.mycoides	C 518	12	54.5	74	6	AR109260	AR109260 Sequence
C 446	12.2	55.5	74	10	CP084678	U84678 Cavia porce	C 519	12	54.5	74	6	I82585	I82585 Sequence 26
C 447	12.2	55.5	74	10	MAU84679	U84679 Mesocricetu	C 520	12	54.5	74	6	AR168451	AR168451 Sequence
C 448	12.2	55.5	74	10	MMU84681	U84681 Mus musculu	C 521	12	54.5	76	6	AR391643	AR391643 Sequence
C 449	12.2	55.5	74	10	RNU84683	U84683 Rattus norv	C 522	12	54.5	76	8	ATH520193	ATH520193 Arabidops
C 450	12.2	55.5	75	4	BTU84676	U84676 Bos taurus	C 523	12	54.5	76	8	ATH527593	ATH527593 Arabidops
C 451	12.2	55.5	75	4	FCPU84677	U84677 Canis famli	C 524	12	54.5	77	6	I44744	I44744 Sequence 7
C 452	12.2	55.5	75	4	FCU84675	U84675 Felis catus	C 525	12	54.5	77	6	I44840	I44840 Sequence 7
C 453	12.2	55.5	75	4	SSU84682	U84682 Sus scrofa	C 526	12	54.5	77	6	I59524	I59524 Sequence 7
C 454	12.2	55.5	75	4	U82128	U82128 Oryctolagus	C 527	12	54.5	79	6	AX916889	AX916889 Sequence
C 455	12.2	55.5	75	5	U82124	U82124 Anas platyr	C 528	12	54.5	79	6	BD052422	BD052422 Sequence
C 456	12.2	55.5	75	5	CAU84680	U84680 Cercopithec	C 529	12	54.5	81	3	AF015933	AF015933 Trypetaea
C 457	12.2	55.5	87	6	AR111210	AR111210 Sequence	C 530	12	54.5	81	6	AX694553	AX694553 Sequence



531	12	54.5	86	6	CQ079139	CQ079139 Sequence	604	11.6	52.7	19	6	AX130308	AX130308 Sequence
532	12	54.5	86	6	CQ110568	CQ110568 Sequence	605	11.6	52.7	20	6	AX295397	AX295397 Sequence
533	12	54.5	86	6	CQ149299	CQ149299 Sequence	606	11.6	52.7	21	6	BD260412	BD260412 Methods
534	12	54.5	86	6	CQ184236	CQ184236 Sequence	607	11.6	52.7	21	6	AR294356	AR294356 Sequence
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536	12	54.5	86	6	CQ270621	CQ270621 Sequence	609	11.6	52.7	21	6	AX598774	AX598774 Sequence
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538	12	54.5	86	6	CQ344721	CQ344721 Sequence	611	11.6	52.7	24	6	AX290764	AX290764 Sequence
539	12	54.5	87	1	SEQ249872	AJ249872 Sequence	612	11.6	52.7	27	6	AR198681	AR198681 Sequence
540	12	54.5	93	10	CGA277520	AJ277520 Cricleomy	613	11.6	52.7	28	6	A28066	A28066 GAD sequenc
541	12	54.5	93	10	CMY275540	AJ275540 Calomyscu	614	11.6	52.7	28	6	AR058239	AR058239 Sequence
542	12	54.5	93	10	DFE275550	AJ275550 Deomy's Fe	615	11.6	52.7	28	6	AR145357	AR145357 Sequence
543	12	54.5	93	10	DT0275535	AJ275535 Dicrostion	616	11.6	52.7	29	6	AX099597	AX099597 Sequence
544	12	54.5	93	10	JUA275535	AJ275535 Jaculuxy J	617	11.6	52.7	30	6	BD023184	BD023184 Secretary
545	12	54.5	93	10	LS1275595	AJ275595 Lophuromy	618	11.6	52.7	30	6	AX351713	AX351713 Sequence
546	12	54.5	93	10	ML275560	AJ275560 Mystronomy	619	11.6	52.7	31	6	AX223444	AX223444 Sequence
547	12	54.5	97	6	I35450	I35450 Sequence 1	620	11.6	52.7	32	6	AX771069	AX771069 Sequence
548	12	54.5	97	6	I35463	I35463 Sequence 14	621	11.6	52.7	34	6	AR102871	AR102871 Sequence
549	12	54.5	98	6	I35474	I35474 Sequence 25	622	11.6	52.7	34	6	AR129415	AR129415 Sequence
550	12	54.5	100	6	AX993279	AX993279 Sequence	623	11.6	52.7	35	6	I31649	I31649 Sequence 1
551	12	54.5	100	6	AX998639	AX998639 Sequence	624	11.6	52.7	36	6	I21472	I21472 Sequence 19
552	11.8	53.6	21	6	AR104972	AR104972 Sequence	625	11.6	52.7	40	6	A83619	A83619 Sequence 48
553	11.8	53.6	21	6	AR158835	AR158835 Sequence	626	11.6	52.7	40	6	AX516058	AX516058 Sequence
554	11.8	53.6	21	6	AR148833	AR148833 Sequence	627	11.6	52.7	41	6	I15394	I15394 Sequence 16
555	11.8	53.6	21	6	E35279	E35279 Assay of Ch	628	11.6	52.7	41	6	AX516057	AX516057 Sequence
556	11.8	53.6	21	6	AR442056	AR442056 Sequence	629	11.6	52.7	42	6	AR140327	AR140327 Sequence
557	11.8	53.6	21	6	AX352015	AX352015 Sequence	630	11.6	52.7	42	6	AR287306	AR287306 Sequence
558	11.8	53.6	22	6	AX352034	AX352034 Sequence	631	11.6	52.7	44	6	I43051	I43051 Sequence 34
559	11.8	53.6	22	6	AX352287	AX352287 Sequence	632	11.6	52.7	45	6	AR099100	AR099100 Sequence
560	11.8	53.6	25	6	AR164828	AR164828 Sequence	633	11.6	52.7	45	6	AR099103	AR099103 Sequence
561	11.8	53.6	25	6	AR490629	AR490629 Sequence	634	11.6	52.7	48	6	I01030	I01030 Sequence 13
562	11.8	53.6	25	6	AX610740	AX610740 Sequence	635	11.6	52.7	49	6	AX528865	AX528865 Sequence
563	11.8	53.6	26	6	AX351718	AX351718 Sequence	636	11.6	52.7	51	6	AR014098	AR014098 Sequence
564	11.8	53.6	27	6	E36244	E36244 Human semap	637	11.6	52.7	51	6	AR051752	AR051752 Sequence
565	11.8	53.6	27	6	AX001308	AX001308 Sequence	638	11.6	52.7	51	6	I18415	I18415 Sequence 22
566	11.8	53.6	27	6	AX452090	AX452090 Sequence	639	11.6	52.7	51	6	I49697	I49697 Sequence 55
567	11.8	53.6	27	6	AX452091	AX452091 Sequence	640	11.6	52.7	51	6	AR200075	AR200075 Sequence
568	11.8	53.6	27	6	BD172030	BD172030 Mutant of	641	11.6	52.7	51	6	AX156985	AX156985 Sequence
569	11.8	53.6	27	6	BD172031	BD172031 Mutant of	642	11.6	52.7	51	6	AX156986	AX156986 Sequence
570	11.8	53.6	28	6	AX351760	AX351760 Sequence	643	11.6	52.7	51	6	AX159757	AX159757 Sequence
571	11.8	53.6	32	6	AR308126	AR308126 Sequence	644	11.6	52.7	51	6	AX159758	AX159758 Sequence
572	11.8	53.6	36	6	AR107045	AR107045 Sequence	645	11.6	52.7	51	6	AX165346	AX165346 Sequence
573	11.8	53.6	40	6	A13305	A13305 Oligonucleo	646	11.6	52.7	51	6	AX165712	AX165712 Sequence
574	11.8	53.6	40	6	AR035187	AR035187 Sequence	647	11.6	52.7	59	9	HUNTCDV1CX	HUNTCDV1CX
575	11.8	53.6	40	6	AX352284	AX352284 Sequence	648	11.6	52.7	60	6	CQ541146	CQ541146 Sequence
576	11.8	53.6	40	6	AX352284	AX352284 Sequence	649	11.6	52.7	60	6	CQ544565	CQ544565 Sequence
577	11.8	53.6	41	6	AX516831	AX516831 Sequence	650	11.6	52.7	60	6	CQ544616	CQ544616 Sequence
578	11.8	53.6	41	6	AX518727	AX518727 Sequence	651	11.6	52.7	60	6	CQ546863	CQ546863 Sequence
579	11.8	53.6	45	6	AX300423	AX300423 Sequence	652	11.6	52.7	60	6	CQ548080	CQ548080 Sequence
580	11.8	53.6	47	6	AR308125	AR308125 Sequence	653	11.6	52.7	60	6	CQ548614	CQ548614 Sequence
581	11.8	53.6	60	6	CQ539582	CQ539582 Sequence	654	11.6	52.7	60	6	CQ552030	CQ552030 Sequence
582	11.8	53.6	60	6	CQ546682	CQ546682 Sequence	655	11.6	52.7	60	6	CQ552804	CQ552804 Sequence
583	11.8	53.6	64	9	S78693	S78693 alpha CREB-	656	11.6	52.7	60	6	CQ784695	CQ784695 Sequence
584	11.8	53.6	65	6	CQ554811	CQ554811 Sequence	657	11.6	52.7	60	6	I25129	I25129 Sequence 17
585	11.8	53.6	65	6	CQ557869	CQ557869 Sequence	658	11.6	52.7	60	6	AX601358	AX601358 Sequence
586	11.8	53.6	66	6	AR053093	AR053093 Sequence	659	11.6	52.7	60	6	BD141966	BD141966 Gene dect
587	11.8	53.6	66	6	AR065054	AR065054 Sequence	660	11.6	52.7	60	6	BD141967	BD141967 Gene dect
588	11.8	53.6	66	6	AX918703	AX918703 Sequence	661	11.6	52.7	60	6	BD141968	BD141968 Gene dect
589	11.8	53.6	66	6	BD054236	BD054236 Sequence	662	11.6	52.7	60	6	BD141969	BD141969 Gene dect
590	11.8	53.6	69	6	AR308131	AR308131 Sequence	663	11.6	52.7	61	6	AX612705	AX612705 Sequence
591	11.8	53.6	77	6	AR042627	AR042627 Sequence	664	11.6	52.7	61	9	AF013720	AF013720 Homo sapi
592	11.8	53.6	77	6	AR064760	AR064760 Sequence	665	11.6	52.7	61	9	AF013721	AF013721 Homo sapi
593	11.8	53.6	77	6	AR476784	AR476784 Sequence	666	11.6	52.7	65	6	CQ530979	CQ530979 Sequence
594	11.8	53.6	79	6	A18331	A18331 Oligonucleo	667	11.6	52.7	65	6	CQ531255	CQ531255 Sequence
595	11.8	53.6	81	9	S78695	S78695 alpha Delta	668	11.6	52.7	65	6	CQ531849	CQ531849 Sequence
596	11.8	53.6	85	8	NEUWTTRL1	K00145 Neurospora	669	11.6	52.7	65	6	CQ532078	CQ532078 Sequence
597	11.8	53.6	86	6	AR053094	AR053094 Sequence	670	11.6	52.7	65	6	CQ534422	CQ534422 Sequence
598	11.8	53.6	86	6	AR065055	AR065055 Sequence	671	11.6	52.7	65	6	CQ557310	CQ557310 Sequence
599	11.8	53.6	87	14	S57841	S57841 Sigma virus	672	11.6	52.7	65	6	AX484251	AX484251 Sequence
600	11.8	53.6	93	6	AX896554	AX896554 Sequence	673	11.6	52.7	69	6	A33451	A33451 Synthetic p
601	11.8	53.6	93	6	BD032087	BD032087 Sequence	674	11.6	52.7	69	6	A33452	A33452 Synthetic p
602	11.8	53.6	99	9	AF007845	AF007845 Homo sapi	675	11.6	52.7	75	6	AR009196	AR009196 Sequence
603	11.8	53.6	100	6	AX997299	AX997299 Sequence	676	11.6	52.7	75	6	AR078717	AR078717 Sequence

677	11.6	52.7	75	6	I25146	I25146 Sequence 42	750	11.4	51.8	39	6	AR011688	AR011688 Sequence
678	11.6	52.7	75	6	I32462	I32462 Sequence 44	751	11.4	51.8	39	6	I58330	I58330 Sequence 1
679	11.6	52.7	75	6	AR198697	AR198697 Sequence	752	11.4	51.8	39	6	I92478	I92478 Sequence 1
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681	11.6	52.7	76	6	AR042702	AR042702 Sequence	754	11.4	51.8	42	6	I40772	I40772 Sequence 10
682	11.6	52.7	76	6	AR064835	AR064835 Sequence	755	11.4	51.8	43	6	AR267989	AR267989 Sequence
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684	11.6	52.7	77	6	AR31178	AR31178 linker 7 fr	757	11.4	51.8	47	6	AX428582	AX428582 Sequence
685	11.6	52.7	78	1	TRN3TNP4	J01833 Escherichia	c 758	11.4	51.8	48	6	AX772583	AX772583 Sequence
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687	11.6	52.7	83	6	A31148	A31148 linker 5 fr	760	11.4	51.8	48	6	I40977	I40977 Sequence 6
688	11.6	52.7	83	6	AR228768	AR228768 Sequence	c 761	11.4	51.8	48	6	AR442882	AR442882 Sequence
689	11.6	52.7	83	6	BD003292	BD003292 Polypepti	762	11.4	51.8	50	6	AX165895	AX165895 Sequence
690	11.6	52.7	85	6	A31179	A31179 linker 7 fr	763	11.4	51.8	51	6	AX199284	AX199284 Sequence
691	11.6	52.7	90	6	AR029739	AR029739 Sequence	764	11.4	51.8	51	6	I22467	I22467 Sequence 16
692	11.6	52.7	90	6	AR035738	AR035738 Sequence	765	11.4	51.8	55	6	I45543	I45543 Sequence 16
693	11.6	52.7	90	6	AR044958	AR044958 Sequence	766	11.4	51.8	57	6	AR355738	AR355738 Sequence
694	11.6	52.7	90	6	I52244	I52244 Sequence 46	c 767	11.4	51.8	59	6	AR059299	AR059299 Sequence
695	11.6	52.7	90	6	AR374453	AR374453 Sequence	768	11.4	51.8	59	6	C0536412	C0536412 Sequence
696	11.6	52.7	91	6	I02847	I02847 Sequence 3	769	11.4	51.8	60	6	C0536415	C0536415 Sequence
697	11.6	52.7	91	6	I03202	I03202 Sequence 3	c 770	11.4	51.8	60	6	C0537004	C0537004 Sequence
698	11.6	52.7	96	11	AL954547	AL954547 Arabidops	c 771	11.4	51.8	60	6	C0537078	C0537078 Sequence
699	11.6	52.7	97	6	I35461	I35461 Sequence 12	c 772	11.4	51.8	60	6	C0539965	C0539965 Sequence
700	11.6	52.7	98	6	I35470	I35470 Sequence 21	c 773	11.4	51.8	60	6	C0541384	C0541384 Sequence
701	11.6	52.7	99	6	AR016661	AR016661 Sequence	c 774	11.4	51.8	60	6	C0543336	C0543336 Sequence
702	11.6	52.7	100	6	CQ000670	CQ000670 Sequence	775	11.4	51.8	60	6	C0543316	C0543316 Sequence
703	11.6	52.7	100	6	AX990489	AX990489 Sequence	776	11.4	51.8	60	6	C0544397	C0544397 Sequence
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707	11.6	52.7	100	10	MUSE2PR	M15109 Mouse Teracl	c 780	11.4	51.8	60	6	C0549665	C0549665 Sequence
708	11.4	51.8	17	6	BD254845	BD254845 Regulatio	c 781	11.4	51.8	60	6	C0552502	C0552502 Sequence
709	11.4	51.8	17	6	BD254846	BD254846 Regulatio	c 782	11.4	51.8	60	6	C0552595	C0552595 Sequence
710	11.4	51.8	17	6	BD254847	BD254847 Regulatio	c 783	11.4	51.8	60	6	C0552897	C0552897 Sequence
711	11.4	51.8	18	6	BD186461	BD186461 Method of	c 784	11.4	51.8	60	6	BD102314	BD102314 Probe for
712	11.4	51.8	20	6	CQ814691	CQ814691 Sequence	c 785	11.4	51.8	64	6	AX543891	AX543891 Sequence
713	11.4	51.8	20	6	AR281449	AR281449 Sequence	c 786	11.4	51.8	65	6	C0534184	C0534184 Sequence
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715	11.4	51.8	21	6	AR264240	AR264240 Sequence	c 788	11.4	51.8	65	6	C0556430	C0556430 Sequence
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## ALIGNMENTS

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DEFINITION Anti-tumor antigens or their epitopes against HTLV-1 tumor.
ACCESSION BD182369
VERSION BD182369.1 GI:30793287
KEYWORDS WO 02090981-A/1.
SOURCE synthetic construct
ORGANISM synthetic construct
REFERENCE 1 (bases 1 to 22)
AUTHORS Hanabuchi,S., Ohashi,T. and Kannagi,M.
TITLE Anti-tumor antigens or their epitopes against HTLV-1 tumor
JOURNAL Patent: WO 02090981-A 1 14-NOV-2002;
JAPAN SCIENCE AND TECHNOLOGY CORP, SHINO HANABUCHI, TAKASHI OHASHI,
MARI KANNAGI
COMMENT OS Artificial Sequence
PN WO 02090981-A/1
PD 14-NOV-2002
PF 02-MAY-2002 WO 2002JP004406
PR 08-MAY-2001 JP 01P 137526
PT SHINO HANABUCHI, TAKASHI OHASHI, MARI KANNAGI
PC G01N33/50, G01N33/15, A61K39/00
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DEFINITION Anti-tumor antigens or their epitopes against HTLV-I tumor.
ACCESSION BD185615
VERSION BD185615.1 GI:31877815
KEYWORDS JP 2002372532-A/1.
SOURCE synthetic construct
ORGANISM synthetic construct
REFERENCE 1 (bases 1 to 22)
AUTHORS Hanabuchi,S., Ohashi,T. and Kannagi,M.
TITLE Anti-tumor antigens or their epitopes against HTLV-I tumor
JOURNAL Patent: JP 2002372532-A 1 26-DEC-2002;
JAPAN SCIENCE AND TECHNOLOGY CORP
COMMENT OS Artificial Sequence
PN JP 2002372532-A/1
PD 26-DEC-2002
PF 08-MAY-2001 JP 2001137526
PT SHINO HANABUCHI, TAKASHI OHASHI, MARI KANNAGI
PC G01N33/50, A61K39/00, A61P35/02, A61P37/04,
PC C12N5/06, C12Q1/02, G01N33/00, G01N33/53, G01N33/53, PC
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Db 1 TGACTGTGAACCTTCGAGATGA 22
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DEFINITION Microemulsions with Adsorbed Macromolecules and Microparticles.
ACCESSION BD190435
VERSION BD190435.1 GI:33000174
KEYWORDS JP 2002537102-A/19.
SOURCE synthetic construct
ORGANISM synthetic construct
REFERENCE 1 (bases 1 to 22)
AUTHORS Barackman,J., Simph,M., Ugozoli,M., Kazazu,J., Donnelly,J.,
Ott,G.S. and Ohagan,D.
TITLE Microemulsions with Adsorbed Macromolecules and Microparticles
JOURNAL Patent: JP 2002537102-A 19 05-NOV-2002;
Chiron Corporation
COMMENT OS Artificial Sequence
PN JP 2002537102-A/19
PD 05-NOV-2002
PF 09-FEB-2000 JP 2000600618
PR 29-JUL-1999 US 60/146391, 28-OCT-1999 US 60/161997, PR
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26-FEB-1999 US 60/121858  
PI John barackman,mamohan simph,mildred ugozoli,jina kazazu,john  
PI donnelly,  
PI gary s oft,derek ohagan  
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RESULT 4  
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LOCUS BD228690  
DEFINITION Methods and adjuvants for stimulating mucosal immunity.  
ACCESSION BD228690  
VERSION BD228690.1 GI:33038460  
KEYWORDS JP 2002526425-A/19.  
SOURCE JP 2002526425-A/19.  
ORGANISM synthetic construct  
synthetic construct  
artificial sequences.  
1 (bases 1 to 22)

REFERENCE  
AUTHORS Raz,B., Horner,A.A. and Carson,D.A.  
TITLE Methods and adjuvants for stimulating mucosal immunity  
JOURNAL Patent: JP 2002526425-A 19 20-AUG-2002;  
THE REGENTS OF THE UNIVERSITY OF CALIFORNIA  
COMMENT OS Artificial Sequence  
PN JP 2002526425-A/19  
PD 20-AUG-2002 JP 2000573397  
PF 15-SEP-1999 JP 2000573397  
PR 05-OCT-1998 US 09/167039  
PI EYAL RAZ, ANTHONY A HORNER, DENNIS A CARSON  
PC A61K39/39,A61K31/7088,A61K31/7105,A61K31/711,A61P11/00 PC  
,A61P27/14,A61P37/04  
PC C12N15/09,G01N33/15,G01N33/50//C12N5/10,G01N33/531,C12N15/00,  
PC C12N5/00  
CC non-coding oligonucleotides  
FH Key Location/Qualifiers  
FT source 1. .22  
/organism='Artificial Sequence'.  
1. .22  
Location/Qualifiers  
/organism="synthetic construct"  
/mol\_type="genomic DNA"  
/db\_xref="taxon:32630"

ORIGIN  
Query Match 100.0%; Score 22; DB 6; Length 22;  
Best Local Similarity 100.0%; Pred. No. 0.46;  
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 TGACTGTGAACGTTGAGATGA 22  
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1 TGACTGTGAACGTTGAGATGA 22

Db 1 TGACTGTGAACGTTGAGATGA 22

RESULT 5  
BD233617 22 bp DNA linear PAT 17-JUL-2003  
LOCUS BD233617  
DEFINITION Immunostimulatory oligonucleotides, compositions thereof and  
methods of use thereof.

ACCESSION BD233617  
VERSION BD233617.1 GI:33043387  
KEYWORDS JP 2002517156-A/2.  
SOURCE unidentified  
ORGANISM unidentified  
unclassified.  
1 (bases 1 to 22)

REFERENCE  
AUTHORS Schwartz,D., Roman,M., Dina,D. and Raz,E.  
TITLE Immunostimulatory oligonucleotides, compositions thereof and  
JOURNAL methods of use thereof  
PATENT: JP 2002517156-A 2 11-JUN-2002;  
DYNVAX TECHNOLOGIES CORP  
COMMENT OS Unidentified  
PN JP 2002517156-A/2  
PD 11-JUN-2002  
PF 05-JUN-1998 JP 1999502884  
PR 06-JUN-1997 US 60/048793  
PI DAVID SCHWARTZ, MARK ROMAN, DINO DINA, EYAL RAZ  
PC C12N15/09,A61K31/7088,A61K31/7115,A61P37/02,A61P43/00,C12Q1/68, PC  
C12N15/00  
CC Strandedness: Single;  
CC Topology: linear;  
CC Immunostimulatory oligonucleotides, compositions thereof and  
CC methods of  
CC use thereof  
FH Key Location/Qualifiers  
FT source 1. .22  
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/db\_xref="taxon:32644"

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Best Local Similarity 100.0%; Pred. No. 0.46;  
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 TGACTGTGAACGTTGAGATGA 22  
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1 TGACTGTGAACGTTGAGATGA 22

Db 1 TGACTGTGAACGTTGAGATGA 22

RESULT 6  
BD251283 22 bp DNA linear PAT 17-JUL-2003  
LOCUS BD251283  
DEFINITION Enhancement of Neisseria antigen bactericidal activity using CG  
motif-containing oligonucleotide.  
ACCESSION BD251283  
VERSION BD251283.1 GI:33061053  
KEYWORDS JP 2002537353-A/19.  
SOURCE JP 2002537353-A/19.  
ORGANISM synthetic construct  
synthetic construct  
artificial sequences.  
1 (bases 1 to 22)

REFERENCE  
AUTHORS Grandi,G., Rappuoli,R., Giuliani,M.M. and Pizzi,M.  
TITLE Enhancement of Neisseria antigen bactericidal activity using CG  
JOURNAL motif-containing oligonucleotide  
PATENT: JP 2002537353-A 19 05-NOV-2002;  
CHIRON SPA  
COMMENT OS Artificial Sequence  
PN JP 2002537353-A/19  
PD 05-NOV-2002  
PF 09-FEB-2000 JP 2000600685  
PR 26-FEB-1999 US 60/121792  
PI GUIDO GRANDI, RINO RAPPUOLI, MARZIA MONICA GIULIANI, MARIAGRAZIA  
PI PIZZA  
PC A61K39/095,A61K31/7088,A61K39/39,A61P31/04//C07K4/22,C12N15/  
PC 09,C12N15/00  
CC oligonucleotide adjuvant  
FH Key Location/Qualifiers

FT source 1..22  
/organism='Artificial Sequence'.  
Location/Qualifiers  
1..22  
/organism="synthetic construct"  
/mol\_type="genomic DNA"  
/db\_xref="taxon:32630"

ORIGIN

Query Match 100.0%; Score 22; DB 6; Length 22;  
Best Local Similarity 100.0%; Pred. No. 0.46;  
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 TGACTGTGAACGTTGAGATGA 22  
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1 TGACTGTGAACGTTGAGATGA 22

Db 1 TGACTGTGAACGTTGAGATGA 22

RESULT 7  
BD272057 22 bp DNA linear PAT 17-JUL-2003  
LOCUS Use of stabilized oligonucleotide for producing agents having  
DEFINITION antitumor activity.  
BD272057  
VERSION BD272057.1 GI:33081825  
KEYWORDS JP 2002539265-A/2.  
SOURCE synthetic construct  
ORGANISM artificial construct  
artificial sequences.  
1 (bases 1 to 22)  
REFERENCE  
AUTHORS Carpenter, A.  
TITLE Use of stabilized oligonucleotide for producing agents having  
antitumor activity  
PATENT: JP 2002539265-A 2 19-NOV-2002;  
JOURNAL ASSISTANCE PUBLIQUE HOPITAUX DE PARIS. INSTITUT NATIONAL DE LA  
SANTÉ ET DE LA RECHERCHE MEDICALE (INSERM)  
COMMENT OS Artificial Sequence  
PN JP 2002539265-A/2  
PD 19-NOV-2002  
PF 17-MAR-2000 JP 2000606246  
PR 19-MAR-1999 PR 99/03433  
PI ANTOINE CARPENTIER  
PC A61K47/48;A61K31/711;A61P35/00  
CC Description of the Artificial Sequence: oligodeoxynucleotide  
FH Key Location/Qualifiers  
FT source 1..22  
Location/Qualifiers  
1..22  
/organism='Artificial Sequence'.  
Location/Qualifiers  
1..22  
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/mol\_type="genomic DNA"  
/db\_xref="taxon:32630"

ORIGIN

Query Match 100.0%; Score 22; DB 6; Length 22;  
Best Local Similarity 100.0%; Pred. No. 0.46;  
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 TGACTGTGAACGTTGAGATGA 22  
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1 TGACTGTGAACGTTGAGATGA 22

Db 1 TGACTGTGAACGTTGAGATGA 22

RESULT 8  
AR268334 22 bp DNA linear PAT 10-APR-2003  
LOCUS Sequence 19 from patent US 6498148.  
DEFINITION AR268334  
ACCESSION AR268334  
VERSION AR268334.1 GI:29698684  
KEYWORDS  
SOURCE Unknown.  
ORGANISM Unknown.  
Unclassified.

REFERENCE 1 (bases 1 to 22)  
AUTHORS Raz, E.  
TITLE Immunization-free methods for treating antigen-stimulated  
inflammation in a mammalian host and shifting the host's antigen  
immune responsiveness to a Th1 phenotype  
JOURNAL Patent: US 6498148-A 19 24-DEC-2002;  
FEATURES  
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/mol\_type="genomic DNA"

ORIGIN

Query Match 100.0%; Score 22; DB 6; Length 22;  
Best Local Similarity 100.0%; Pred. No. 0.46;  
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 TGACTGTGAACGTTGAGATGA 22  
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1 TGACTGTGAACGTTGAGATGA 22

Db 1 TGACTGTGAACGTTGAGATGA 22

RESULT 9  
AR287741 22 bp DNA linear PAT 12-JUN-2003  
LOCUS Sequence 1 from patent US 6534062.  
DEFINITION AR287741  
ACCESSION AR287741  
VERSION AR287741.1 GI:31674761  
KEYWORDS  
SOURCE Unknown.  
ORGANISM Unknown.  
Unclassified.  
1 (bases 1 to 22)  
REFERENCE Raz, E., Cho, H.J., Richman, D. and Horner, A.A.  
AUTHORS Methods for increasing a cytotoxic T lymphocyte response in vivo  
TITLE Patent: US 6534062-A 1 18-MAR-2003;  
JOURNAL Location/Qualifiers  
FEATURES  
source 1..22  
/organism="unknown"  
/mol\_type="genomic DNA"

ORIGIN

Query Match 100.0%; Score 22; DB 6; Length 22;  
Best Local Similarity 100.0%; Pred. No. 0.46;  
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 TGACTGTGAACGTTGAGATGA 22  
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1 TGACTGTGAACGTTGAGATGA 22

Db 1 TGACTGTGAACGTTGAGATGA 22

RESULT 10  
AR287743 22 bp DNA linear PAT 12-JUN-2003  
LOCUS Sequence 3 from patent US 6534062.  
DEFINITION AR287743  
ACCESSION AR287743  
VERSION AR287743.1 GI:31674763  
KEYWORDS  
SOURCE Unknown.  
ORGANISM Unknown.  
Unclassified.  
1 (bases 1 to 22)  
REFERENCE Raz, E., Cho, H.J., Richman, D. and Horner, A.A.  
AUTHORS Methods for increasing a cytotoxic T lymphocyte response in vivo  
TITLE Patent: US 6534062-A 3 18-MAR-2003;  
JOURNAL Location/Qualifiers  
FEATURES  
source 1..22  
/organism="unknown"  
/mol\_type="genomic DNA"

ORIGIN

Query Match 100.0%; Score 22; DB 6; Length 22;  
Best Local Similarity 100.0%; Pred. No. 0.46;  
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 TGACTGTGAACGTTGAGATGA 22  
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Db 1 TGACTGTGAACGTTGAGATGA 22

RESULT 11  
AR308057  
LOCUS AR308057 22 bp DNA linear PAT 12-JUN-2003  
DEFINITION Sequence 1 from patent US 6552006.  
ACCESSION AR308057  
VERSION AR308057.1 GI:3169950  
KEYWORDS  
SOURCE Unknown.  
ORGANISM Unclassified.  
REFERENCE 1 (bases 1 to 22)  
AUTHORS Raz,E., Kornbluth,R., Catanzaro,A., Hayaashi,T. and Carson,D.  
TITLE Immunomodulatory polynucleotides in treatment of an infection by an intracellular pathogen  
JOURNAL Patent: US 6552006-A 1 22-APR-2003;  
FEATURES Location/Qualifiers  
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ORIGIN  
Query Match 100.0%; Score 22; DB 6; Length 22;  
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QY 1 TGACTGTGAACGTTGAGATGA 22  
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Db 1 TGACTGTGAACGTTGAGATGA 22

RESULT 12  
AR352573  
LOCUS AR352573 22 bp DNA linear PAT 17-AUG-2003  
DEFINITION Sequence 2 from patent US 6589940.  
ACCESSION AR352573  
VERSION AR352573.1 GI:33757824  
KEYWORDS  
SOURCE Unknown.  
ORGANISM Unclassified.  
REFERENCE 1 (bases 1 to 22)  
AUTHORS Raz,E., Roman,M. and Dina,D.  
TITLE Immunostimulatory oligonucleotides, compositions thereof and methods of use thereof  
JOURNAL Patent: US 6589940-A 2 08-JUL-2003;  
FEATURES Location/Qualifiers  
source 1..22  
/organism="unknown"  
/mol\_type="genomic DNA"

ORIGIN  
Query Match 100.0%; Score 22; DB 6; Length 22;  
Best Local Similarity 100.0%; Pred. No. 0.46;  
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 TGACTGTGAACGTTGAGATGA 22  
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Db 1 TGACTGTGAACGTTGAGATGA 22

RESULT 13  
AR383158  
LOCUS AR383158 22 bp DNA linear PAT 18-DEC-2003  
DEFINITION Sequence 1 from patent US 6610661.  
ACCESSION AR383158  
VERSION AR383158.1 GI:40092605  
KEYWORDS

SOURCE Unknown.  
ORGANISM Unclassified.  
REFERENCE 1 (bases 1 to 22)  
AUTHORS Carson,D.A., Raz,E. and Roman,M.  
TITLE Immunostimulatory polynucleotide/immunomodulatory molecule  
JOURNAL Patent: US 6610661-A 1 26-AUG-2003;  
FEATURES Location/Qualifiers  
source 1..22  
/organism="unknown"  
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ORIGIN  
Query Match 100.0%; Score 22; DB 6; Length 22;  
Best Local Similarity 100.0%; Pred. No. 0.46;  
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 TGACTGTGAACGTTGAGATGA 22  
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Db 1 TGACTGTGAACGTTGAGATGA 22

RESULT 14  
AR392162  
LOCUS AR392162 22 bp DNA linear PAT 18-DEC-2003  
DEFINITION Sequence 1 from patent US 6613751.  
ACCESSION AR392162  
VERSION AR392162.1 GI:40116139  
KEYWORDS  
SOURCE Unknown.  
ORGANISM Unclassified.  
REFERENCE 1 (bases 1 to 22)  
AUTHORS Raz,E. and Rachmliewitz,D.  
TITLE Method for treating inflammatory bowel disease and other forms of gastrointestinal inflammation  
JOURNAL Patent: US 6613751-A 1 02-SEP-2003;  
FEATURES Location/Qualifiers  
source 1..22  
/organism="unknown"  
/mol\_type="genomic DNA"

ORIGIN  
Query Match 100.0%; Score 22; DB 6; Length 22;  
Best Local Similarity 100.0%; Pred. No. 0.46;  
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 TGACTGTGAACGTTGAGATGA 22  
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Db 1 TGACTGTGAACGTTGAGATGA 22

RESULT 15  
AX036945  
LOCUS AX036945 22 bp DNA linear PAT 16-NOV-2000  
DEFINITION Sequence 2 from Patent FR2790955.  
ACCESSION AX036945  
VERSION AX036945.1 GI:11226373  
KEYWORDS  
SOURCE synthetic construct  
ORGANISM synthetic construct  
REFERENCE 1  
AUTHORS Carpentier A.  
JOURNAL Patent: FR 2790955-A 2 22-SEP-2000;  
ASSIST PUBL HOPITAUX DE PARIS (FR)  
FEATURES Location/Qualifiers  
source 1..22  
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/mol\_type="unassigned DNA"  
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/note="Oligodeoxynucleotide"

ORIGIN

Query Match 100.0%; Score 22; DB 6; Length 22;  
Best Local Similarity 100.0%; Pred. No. 0.46;  
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QY 1 TGACTGTGAACGTTGCAGATGA 22  
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DB 1 TGACTGTGAACGTTGCAGATGA 22

RESULT 16  
AX046993 22 bp DNA linear PAT 15-DEC-2000  
LOCUS Sequence 2 from Patent WO0067787.  
DEFINITION AX046993  
ACCESSION AX046993  
VERSION AX046993.1 GI:11876420  
KEYWORDS  
SOURCE  
ORGANISM  
REFERENCE 1  
AUTHORS Moss, R. B.  
TITLE Hiv immunogenic compositions and methods  
JOURNAL Patent: WO 0067787-A 2 16-NOV-2000;  
THE IMMUNE RESPONSE CORPORATION (US)  
FEATURES  
source 1..22  
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/mol\_type="unassigned DNA"  
/db\_xref="taxon:32630"  
/note="phosphorothioate-modified synthetic oligodeoxynucleotide"

ORIGIN

Query Match 100.0%; Score 22; DB 6; Length 22;  
Best Local Similarity 100.0%; Pred. No. 0.46;  
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 TGACTGTGAACGTTGCAGATGA 22  
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DB 1 TGACTGTGAACGTTGCAGATGA 22

RESULT 17  
AX083675 22 bp DNA linear PAT 28-FEB-2001  
LOCUS Sequence 1 from Patent WO0112223.  
DEFINITION AX083675  
ACCESSION AX083675  
VERSION AX083675.1 GI:13185407  
KEYWORDS  
SOURCE  
ORGANISM  
REFERENCE 1  
AUTHORS van Nest, G.  
TITLE Methods of modulating an immune response using immunostimulatory s  
JOURNAL Equences and compositions for use therein  
Patent: WO 0112223-A 1 22-FEB-2001;  
Dynavax Technologies Corporation (US)  
FEATURES  
source 1..22  
/organism="synthetic construct"  
/mol\_type="unassigned DNA"  
/db\_xref="taxon:32630"  
/note="Synthetic construct"

ORIGIN

Query Match 100.0%; Score 22; DB 6; Length 22;  
Best Local Similarity 100.0%; Pred. No. 0.46;  
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 TGACTGTGAACGTTGCAGATGA 22

DB 1 TGACTGTGAACGTTGCAGATGA 22  
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1 TGACTGTGAACGTTGCAGATGA 22

RESULT 18  
AX135650 22 bp DNA linear PAT 29-MAY-2001  
LOCUS Sequence 21 from Patent WO0132877.  
DEFINITION AX135650  
ACCESSION AX135650  
VERSION AX135650.1 GI:14271920  
KEYWORDS  
SOURCE  
ORGANISM  
REFERENCE 1  
AUTHORS Mackichan, M. L.  
TITLE Cpg receptor (Cpg-r) and methods relating thereto  
JOURNAL Patent: WO 0132877-A 21 10-MAY-2001;  
CHIRON CORPORATION (US)  
FEATURES  
source 1..22  
/organism="synthetic construct"  
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/db\_xref="taxon:32630"  
/note="Cpg oligonucleotide"

ORIGIN

Query Match 100.0%; Score 22; DB 6; Length 22;  
Best Local Similarity 100.0%; Pred. No. 0.46;  
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 TGACTGTGAACGTTGCAGATGA 22  
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DB 1 TGACTGTGAACGTTGCAGATGA 22

RESULT 19  
AX148636 22 bp DNA linear PAT 08-JUN-2001  
LOCUS Sequence 1 from Patent WO0135991.  
DEFINITION AX148636  
ACCESSION AX148636  
VERSION AX148636.1 GI:14347254  
KEYWORDS  
SOURCE  
ORGANISM  
REFERENCE 1  
AUTHORS Tuck, S. and van Nest, G.  
TITLE Immunomodulatory compositions containing an immunostimulatory  
JOURNAL sequence linked to antigen and methods of use thereof  
Patent: WO 0135991-A 1 25-MAY-2001;  
Dynavax Technologies Corporation (US)  
FEATURES  
source 1..22  
/organism="synthetic construct"  
/mol\_type="unassigned DNA"  
/db\_xref="taxon:32630"  
/note="synthetic construct"

ORIGIN

Query Match 100.0%; Score 22; DB 6; Length 22;  
Best Local Similarity 100.0%; Pred. No. 0.46;  
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 TGACTGTGAACGTTGCAGATGA 22  
|||||  
1 TGACTGTGAACGTTGCAGATGA 22

DB 1 TGACTGTGAACGTTGCAGATGA 22

RESULT 20  
AX250701 22 bp DNA linear PAT 06-OCT-2001  
LOCUS Sequence 1 from Patent WO0168078.  
DEFINITION



ACCESSION AX250701 GI:15984439  
VERSION  
KEYWORDS  
SOURCE synthetic construct  
ORGANISM  
REFERENCE 1  
AUTHORS van Nest,G.  
TITLE Methods of suppressing hepatitis virus infection using immunomodulatory polynucleotide sequences  
JOURNAL Patent: WO 0168078-A 1 20-SEP-2001;  
Dynavax Technologies Corporation (US)  
FEATURES  
source Location/Qualifiers  
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/mol\_type="unassigned DNA"  
/db\_xref="taxon:32630"  
ORIGIN  
Query Match 100.0%; Score 22; DB 6; Length 22;  
Best Local Similarity 100.0%; Pred. No. 0.46;  
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;  
QY 1 TGACTGTGAACGTTGAGATGA 22  
|||||  
1 TGACTGTGAACGTTGAGATGA 22  
Db  
RESULT 21  
AX252291 22 bp DNA linear PAT 05-OCT-2001  
LOCUS  
DEFINITION Sequence 1 from Patent WO0168117.  
ACCESSION AX252291  
VERSION AX252291.1 GI:15985632  
KEYWORDS  
SOURCE synthetic construct  
ORGANISM synthetic construct  
REFERENCE 1  
AUTHORS van Nest,G.  
TITLE Methods of reducing papillomavirus infection using immunomodulatory polynucleotide sequences  
JOURNAL Patent: WO 0168117-A 1 20-SEP-2001;  
Dynavax Technologies Corporation (US)  
FEATURES  
source Location/Qualifiers  
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/mol\_type="unassigned DNA"  
/db\_xref="taxon:32630"  
/note="Polynucleotide containing CG"  
ORIGIN  
Query Match 100.0%; Score 22; DB 6; Length 22;  
Best Local Similarity 100.0%; Pred. No. 0.46;  
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;  
QY 1 TGACTGTGAACGTTGAGATGA 22  
|||||  
1 TGACTGTGAACGTTGAGATGA 22  
Db  
RESULT 22  
AX252509 22 bp DNA linear PAT 05-OCT-2001  
LOCUS  
DEFINITION Sequence 1 from Patent WO0168103.  
ACCESSION AX252509  
VERSION AX252509.1 GI:15985780  
KEYWORDS  
SOURCE synthetic construct  
ORGANISM synthetic construct  
REFERENCE 1  
AUTHORS van Nest,G.

TITLE Methods of ameliorating symptoms of herpes infection using immunomodulatory polynucleotide sequences  
JOURNAL Patent: WO 0168103-A 1 20-SEP-2001;  
Dynavax Technologies Corporation (US)  
FEATURES  
source Location/Qualifiers  
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/organism="synthetic construct"  
/mol\_type="unassigned DNA"  
/db\_xref="taxon:32630"  
/note="Polynucleotide containing CG"  
ORIGIN  
Query Match 100.0%; Score 22; DB 6; Length 22;  
Best Local Similarity 100.0%; Pred. No. 0.46;  
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;  
QY 1 TGACTGTGAACGTTGAGATGA 22  
|||||  
1 TGACTGTGAACGTTGAGATGA 22  
Db  
RESULT 23  
AX252520 22 bp DNA linear PAT 05-OCT-2001  
LOCUS  
DEFINITION Sequence 1 from Patent WO0168144.  
ACCESSION AX252520  
VERSION AX252520.1 GI:15985791  
KEYWORDS  
SOURCE synthetic construct  
ORGANISM synthetic construct  
REFERENCE 1  
AUTHORS van Nest,G. and Tuck,S.  
TITLE Biodegradable immunomodulatory formulations and methods for use thereof  
JOURNAL Patent: WO 0168144-A 1 20-SEP-2001;  
Dynavax Technologies Corporation (US)  
FEATURES  
source Location/Qualifiers  
1..22  
/organism="synthetic construct"  
/mol\_type="unassigned DNA"  
/db\_xref="taxon:32630"  
/note="Polynucleotide containing CG"  
ORIGIN  
Query Match 100.0%; Score 22; DB 6; Length 22;  
Best Local Similarity 100.0%; Pred. No. 0.46;  
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;  
QY 1 TGACTGTGAACGTTGAGATGA 22  
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1 TGACTGTGAACGTTGAGATGA 22  
Db  
RESULT 24  
AX252934 22 bp DNA linear PAT 05-OCT-2001  
LOCUS  
DEFINITION Sequence 1 from Patent WO0168143.  
ACCESSION AX252934  
VERSION AX252934.1 GI:15986201  
KEYWORDS  
SOURCE synthetic construct  
ORGANISM synthetic construct  
REFERENCE 1  
AUTHORS van Nest,G. and Tuck,S.  
TITLE Immunomodulatory formulations and methods for use thereof  
JOURNAL Patent: WO 0168143-A 1 20-SEP-2001;  
Dynavax Technologies Corporation (US)  
FEATURES  
source Location/Qualifiers  
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/mol\_type="unassigned DNA"

ORIGIN /db\_xref="taxon:32630"  
/note="Polynucleotide containing CG"

Query Match 100.0%; Score 22; DB 6; Length 22;  
Best Local Similarity 100.0%; Pred. No. 0.46;  
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 TGAAGTGAACGTTGAGATGA 22  
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1 TGAAGTGAACGTTGAGATGA 22

RESULT 25  
AX253113 22 bp DNA linear PAT 05-OCT-2001  
LOCUS Sequence 1 from Patent WO0168116.  
DEFINITION AX253113  
ACCESSION AX253113  
VERSION AX253113.1 GI:15986281  
KEYWORDS  
SOURCE synthetic construct  
ORGANISM synthetic construct  
REFERENCE 1  
AUTHORS van Nest,G.  
TITLE Methods of preventing and treating respiratory viral infection using immunomodulatory polynucleotide sequences  
JOURNAL Patent: WO 0168116-A 1 20-SEP-2001;  
Dynavax Technologies Corporation (US)  
FEATURES  
source Location/Qualifiers  
1..22  
/organism="synthetic construct"  
/mol\_type="unassigned DNA"  
/db\_xref="taxon:32630"  
/note="Polynucleotide containing CG"

ORIGIN /note="Polynucleotide containing CG"

Query Match 100.0%; Score 22; DB 6; Length 22;  
Best Local Similarity 100.0%; Pred. No. 0.46;  
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 TGAAGTGAACGTTGAGATGA 22  
|||||  
1 TGAAGTGAACGTTGAGATGA 22

RESULT 26  
AX253123 22 bp DNA linear PAT 05-OCT-2001  
LOCUS AX253123  
DEFINITION Sequence 1 from Patent WO0168077.  
ACCESSION AX253123  
VERSION AX253123.1 GI:15986291  
KEYWORDS  
SOURCE synthetic construct  
ORGANISM synthetic construct  
REFERENCE 1  
AUTHORS van Nest,G.  
TITLE Methods of preventing and treating viral infections using immunomodulatory polynucleotide sequences  
JOURNAL Patent: WO 0168077-A 1 20-SEP-2001;  
Dynavax Technologies Corporation (US)  
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/organism="synthetic construct"  
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RESULT 27  
AX468499 22 bp DNA linear PAT 16-JUL-2002  
LOCUS AX468499  
DEFINITION Sequence 19 from Patent WO0226209.  
ACCESSION AX468499  
VERSION AX468499.1 GI:21901329  
KEYWORDS  
SOURCE synthetic construct  
ORGANISM synthetic construct  
REFERENCE 1  
AUTHORS O'Hagan,D., Otten,G., Donnelly,J.J., Polo,J.M., Barnett,S., Singh,M., Ulmer,U. and Dubensky,T.W.  
TITLE Microparticles for delivery of the heterologous nucleic acids  
JOURNAL Patent: WO 0226209-A 19 04-APR-2002;  
CHIRON CORPORATION (US)  
FEATURES  
source Location/Qualifiers  
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QY 1 TGAAGTGAACGTTGAGATGA 22  
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RESULT 28  
AX592312 22 bp DNA linear PAT 27-JAN-2003  
LOCUS AX592312  
DEFINITION Sequence 2 from Patent WO02052002.  
ACCESSION AX592312  
VERSION AX592312.1 GI:27950414  
KEYWORDS  
SOURCE synthetic construct  
ORGANISM synthetic construct  
REFERENCE 1  
AUTHORS Fearon,K.L. and Dina,D.  
TITLE Immunomodulatory polynucleotides and methods of using the same  
JOURNAL Patent: WO 02052002-A 2 04-JUL-2002;  
Dynavax Technologies Corporation (US)  
FEATURES  
source Location/Qualifiers  
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QY 1 TGAAGTGAACGTTGAGATGA 22  
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RESULT 29  
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LOCUS AX592350 22 bp DNA linear PAT 27-JAN-2003  
DEFINITION Sequence 40 from Patent WO02052002.  
ACCESSION AX592350  
VERSION AX592350.1 GI:27950452  
KEYWORDS  
SOURCE synthetic construct  
ORGANISM synthetic construct  
REFERENCE 1  
AUTHORS Fearon, K.L. and Dina, D.  
TITLE Immunomodulatory polynucleotides and methods of using the same  
JOURNAL Patent: WO 02052002-A 40 04-JUN-2002;  
Dynavax Technologies Corporation (US)  
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QY 1 TGAAGTGAACGTTGAGATGA 22  
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Db 1 TGAAGTGAACGTTGAGATGA 22

RESULT 30  
LOCUS AX592369 22 bp DNA linear PAT 27-JAN-2003  
DEFINITION Sequence 59 from Patent WO02052002.  
ACCESSION AX592369  
VERSION AX592369.1 GI:27950471  
KEYWORDS  
SOURCE synthetic construct  
ORGANISM synthetic construct  
REFERENCE 1  
AUTHORS Fearon, K.L. and Dina, D.  
TITLE Immunomodulatory polynucleotides and methods of using the same  
JOURNAL Patent: WO 02052002-A 59 04-JUN-2002;  
Dynavax Technologies Corporation (US)  
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RESULT 31  
LOCUS AX720306 22 bp DNA linear PAT 15-APR-2003  
DEFINITION Sequence 1 from Patent WO03000232.  
ACCESSION AX720306  
VERSION AX720306.1 GI:29892140  
KEYWORDS  
SOURCE synthetic construct  
ORGANISM synthetic construct  
REFERENCE 1

AUTHORS Barenholz, Y., Kedar, E., Louria-Hayon, Y., Joseph, A., Raz, E. and Takabayashi, K.  
TITLE Method for preparation of vesicles loaded with immunostimulatory oligodeoxynucleotides  
JOURNAL Patent: WO 03000232-A 1 03-JAN-2003;  
Yissum Research Development Company of the Hebrew Univ of Jerusalem (IL); The Regents of the University of California (US)  
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RESULT 32  
LOCUS BD009235 22 bp DNA linear PAT 31-JAN-2002  
DEFINITION Immunostimulatory polynucleotide/immunomodulatory molecule conjugates.  
ACCESSION BD009235  
VERSION BD009235.1 GI:18637608  
KEYWORDS JP 2001503254-A/34.  
SOURCE synthetic construct  
ORGANISM synthetic construct  
REFERENCE 1 (bases 1 to 22)  
AUTHORS Carson, D.A., Raz, E. and Roman, M.  
TITLE Immunostimulatory polynucleotide/immunomodulatory molecule  
JOURNAL Patent: JP 2001503254-A 34 13-MAR-2001;  
THE REGENTS OF THE UNIVERSITY OF CALIFORNIA  
COMMENT OS Artificial Sequence  
PN JP 2001503254-A/34  
PD 13-MAR-2001  
PF 09-OCT-1997 JP 1998518649  
PR 11-OCT-1996 US 60/028118  
PI DENNIS A CARSON, EYAL RAZ, MARK ROMAN  
PC A61K39/00, A61K39/385, A61K39/39  
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Db 1 TGAAGTGAACGTTGAGATGA 22

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DEFINITION Sequence 7 from Patent WO0168078.  
ACCESSION AX250707  
VERSION AX250707.1 GI:15984445  
KEYWORDS

SOURCE synthetic construct  
ORGANISM synthetic construct  
REFERENCE 1  
AUTHORS van Nest, G.  
TITLE Methods of suppressing hepatitis virus infection using immunomodulatory polynucleotide sequences  
JOURNAL Patent: WO 0168078-A 7 20-SEP-2001;  
Dynavax Technologies Corporation (US)  
FEATURES  
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RESULT 34  
BD233630 22 bp DNA linear PAT 17-JUL-2003  
LOCUS Immunostimulatory oligonucleotides, compositions thereof and  
DEFINITION methods of use thereof.  
ACCESSION BD233630  
VERSION BD233630.1 GI:33043400  
KEYWORDS JP 2002517156-A/15.  
SOURCE unidentified  
ORGANISM unidentified  
REFERENCE 1 (bases 1 to 22)  
AUTHORS Schwartz, D., Roman, M., Dina, D. and Raz, E.  
TITLE Immunostimulatory oligonucleotides, compositions thereof and methods of use thereof  
JOURNAL Patent: JP 2002517156-A 15 11-JUN-2002;  
Dynavax Technologies Corp  
COMMENT OS Unidentified  
PN JP 2002517156-A/15  
PD 11-JUN-2002  
PR 05-JUN-1998 JP 199502884  
PI 06-JUN-1997 US 60/048793  
PC DAVID SCHWARTZ, MARK ROMAN, DINO DINA, EYAL RAZ  
C12N15/09, A61K31/7088, A61K31/7115, A61P37/02, A61P43/00, C12Q1/68, PC  
C12N15/00  
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CC Topology: Linear;  
CC 5-bromocytosine  
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Db 1 TGAAGTGAACGTTGAGATGA 22

RESULT 35  
AR352586 22 bp DNA linear PAT 17-AUG-2003  
LOCUS Sequence 15 from patent US 6589940.  
DEFINITION AR352586  
ACCESSION AR352586  
VERSION AR352586.1 GI:33757837  
KEYWORDS  
SOURCE Unknown.  
ORGANISM Unknown.  
REFERENCE 1 (bases 1 to 22)  
AUTHORS Raz, E., Roman, M. and Dina, D.  
TITLE Immunostimulatory oligonucleotides, compositions thereof and methods of use thereof  
JOURNAL Patent: US 6589940-A 15 08-JUN-2003;  
Dynavax Technologies Corporation (US)  
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Db 1 TGAAGTGAACGTTGAGATGA 22  
RESULT 36  
AX083681 22 bp DNA linear PAT 28-FEB-2001  
LOCUS Sequence 7 from Patent WO0112223.  
DEFINITION AX083681  
ACCESSION AX083681  
VERSION AX083681.1 GI:13185413  
KEYWORDS  
SOURCE synthetic construct  
ORGANISM synthetic construct  
REFERENCE 1  
AUTHORS van Nest, G.  
TITLE Methods of modulating an immune response using immunostimulatory s  
JOURNAL sequences and compositions for use therein  
Patent: WO 0112223-A 7 22-FEB-2001;  
Dynavax Technologies Corporation (US)  
FEATURES  
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RESULT 37  
AX148642 22 bp DNA linear PAT 08-JUN-2001  
LOCUS Sequence 7 from Patent WO0135991.  
DEFINITION AX148642  
ACCESSION AX148642  
VERSION AX148642.1 GI:14347260  
KEYWORDS  
SOURCE synthetic construct

ORGANISM synthetic construct  
artificial sequences.

REFERENCE 1  
AUTHORS Tuck,S. and van Nest,G.  
TITLE Immunomodulatory compositions containing an immunostimulatory  
sequence linked to antigen and methods of use thereof  
JOURNAL Patent: WO 0135991-A 7 25-MAY-2001  
FEATURES Dynavax Technologies Corporation (US)  
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Db 1 TGAAGTGAACGTTGAGATGA 22

RESULT 38  
AX252297 22 bp DNA linear PAT 05-OCT-2001  
LOCUS AX252297  
DEFINITION Sequence 7 from Patent WO0168117.  
ACCESSION AX252297  
VERSION AX252297.1 GI:15985638  
KEYWORDS  
SOURCE synthetic construct  
ORGANISM synthetic construct  
REFERENCE 1  
AUTHORS van Nest,G.  
TITLE Methods of reducing papillomavirus infection using immunomodulatory  
polynucleotide sequences  
JOURNAL Patent: WO 0168117-A 7 20-SEP-2001;  
FEATURES Dynavax Technologies Corporation (US)  
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Db 1 TGAAGTGAACGTTGAGATGA 22

RESULT 39  
AX252515 22 bp DNA linear PAT 05-OCT-2001  
LOCUS AX252515  
DEFINITION Sequence 7 from Patent WO0168103.  
ACCESSION AX252515  
VERSION AX252515.1 GI:15985786  
KEYWORDS  
SOURCE synthetic construct  
ORGANISM synthetic construct  
REFERENCE 1  
AUTHORS van Nest,G.  
TITLE Methods of ameliorating symptoms of herpes infection using  
immunomodulatory polynucleotide sequences  
JOURNAL Patent: WO 0168103-A 7 20-SEP-2001;  
FEATURES Dynavax Technologies Corporation (US)  
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QY 1 TGAAGTGAACGTTGAGATGA 22  
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Db 1 TGAAGTGAACGTTGAGATGA 22

REFERENCE 1  
AUTHORS van Nest,G.  
TITLE Methods of ameliorating symptoms of herpes infection using  
immunomodulatory polynucleotide sequences  
JOURNAL Patent: WO 0168103-A 7 20-SEP-2001;  
FEATURES Dynavax Technologies Corporation (US)  
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RESULT 40  
AX252526 22 bp DNA linear PAT 05-OCT-2001  
LOCUS AX252526  
DEFINITION Sequence 7 from Patent WO0168144.  
ACCESSION AX252526  
VERSION AX252526.1 GI:15985797  
KEYWORDS  
SOURCE synthetic construct  
ORGANISM synthetic construct  
REFERENCE 1  
AUTHORS van Nest,G. and Tuck,S.  
TITLE Biodegradable immunomodulatory formulations and methods for use  
thereof  
JOURNAL Patent: WO 0168144-A 7 20-SEP-2001;  
FEATURES Dynavax Technologies Corporation (US)  
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Job time : 1461 secs

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GenCore version 5.1.6  
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OM nucleic - nucleic search, using bw model

Run on: October 30, 2004, 17:31:47 ; Search time 223 Seconds  
(without alignments)  
517.880 Million cell updates/sec

Title: US-09-802-376-1  
Perfect score: 22  
Sequence: 1 tgcactgtaacgtcgcagatga 22

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Gapop 10.0, Gapext 1.0

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Minimum DB seq length: 0  
Maximum DB seq length: 100

Post-processing: Minimum Match 0%  
Maximum Match 100%  
Listing first 1000 summaries

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Pred. No. is the number of results predicted by chance to have a  
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and is derived by analysis of the total score distribution.

## SUMMARIES

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2	22	100.0	22	2	AAV80097 Immunomod
3	22	100.0	22	2	AAV80103 Immunomod
4	22	100.0	22	2	AAV80102 Immunomod
5	22	100.0	22	2	AAV36624 ISS-ODN D
6	22	100.0	22	2	AAV4467 Immunost
7	22	100.0	22	2	AAV38072 Immunost
8	22	100.0	22	2	AAV38071 Immunost
9	22	100.0	22	2	AAV38065 Immunost
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11	22	100.0	22	2	AAV38065 Sequence
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13	22	100.0	22	2	AAV38065 CPG motif
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91	22	100.0	22	6	AAV41573 Immunost
92	22	100.0	22	6	AAV41573 Immunost
93	22	100.0	22	6	AAV41573 Immunost
94	22	100.0	22	6	AAV41573 Immunost

95	20.4	92.7	22	3	AA38066	Aa38066	Immunost	168	19.4	88.2	22	6	AA516353	Aa516353	ISS polyn
96	20.4	92.7	22	3	AA496254	Aa496254	Sequence	169	19.4	88.2	22	6	ABA03861	AbA03861	Immunost
97	20.4	92.7	22	4	AA43343	Aa43343	Immunomod	170	19.4	88.2	22	9	ADB88875	AdB88875	Chimeric
98	20.4	92.7	22	4	AA443341	Aa443341	Immunomod	171	19.4	88.2	22	10	ADF09178	AdF09178	Immunomod
99	20.4	92.7	22	4	AA443342	Aa443342	Immunomod	172	19.4	88.2	22	12	AD179433	Ad179433	Immunost
100	20.4	92.7	22	4	AAH73440	AaH73440	Immunomod	173	19.4	88.2	22	12	ADO55287	AdO55287	Immunost
101	20.4	92.7	22	4	AAH75993	AaH75993	Immunomod	174	19.4	88.2	22	12	ADP86134	AdP86134	Immunost
102	20.4	92.7	22	4	AAH75995	AaH75995	Immunomod	175	19.4	88.2	22	12	ADP86152	AdP86152	Immunost
103	20.4	92.7	22	4	AAH77043	AaH77043	Immunost	176	18.8	85.5	22	2	AAV32080	AaV32080	Nucleotid
104	20.4	92.7	22	4	AAH77047	AaH77047	Immunost	177	18.8	85.5	22	2	AAV80106	AaV80106	Oligo use
105	20.4	92.7	22	4	AAH77041	AaH77041	Immunost	178	18.8	85.5	22	2	AAV80104	AaV80104	Oligo use
106	20.4	92.7	22	4	AAH42534	AaH42534	Phosphoro	179	18.8	85.5	22	2	AAV55797	AaV55797	Immunost
107	20.4	92.7	22	5	AAH41576	AaH41576	Immunost	180	18.8	85.5	22	2	AAV55788	AaV55788	Immunost
108	20.4	92.7	22	5	AAH41574	AaH41574	Immunost	181	18.8	85.5	22	2	AAV55790	AaV55790	Immunost
109	20.4	92.7	22	5	AAH41665	AaH41665	Immunost	182	18.8	85.5	22	2	AAV56625	AaV56625	ISS-ODN m
110	20.4	92.7	22	5	AAH41667	AaH41667	Immunost	183	18.8	85.5	22	3	AAH44469	AaH44469	Mutant im
111	20.4	92.7	22	6	AAH55593	AaH55593	Immunost	184	18.8	85.5	22	3	AAH44468	AaH44468	Inactive
112	20.4	92.7	22	6	ABA03836	AbA03836	Immunost	185	18.8	85.5	22	3	AAH90459	AaH90459	CPG adjuv
113	20.4	92.7	22	6	ABA03834	AbA03834	Immunost	186	18.8	85.5	22	3	AAH96260	AaH96260	Sequence
114	20.4	92.7	22	6	ABA03845	AbA03845	Immunost	187	18.8	85.5	22	3	AAH96252	AaH96252	Sequence
115	20.4	92.7	22	6	ABA03847	AbA03847	Immunost	188	18.8	85.5	22	3	AAH96452	AaH96452	Non-CPG C
116	20.4	92.7	22	6	AAH56340	AaH56340	ISS polyn	189	18.8	85.5	22	4	AAH20404	AaH20404	CPG motif
117	20.4	92.7	22	6	AAH56338	AaH56338	ISS polyn	190	18.8	85.5	22	4	AAH43345	AaH43345	Immunomod
118	20.4	92.7	22	6	AAH24895	AaH24895	Methylase	191	18.8	85.5	22	4	AAH43340	AaH43340	Immunomod
119	20.4	92.7	22	6	AAH24894	AaH24894	Immunost	192	18.8	85.5	22	4	AAH73441	AaH73441	Immunomod
120	20.4	92.7	22	6	AAH21878	AaH21878	Mutated o	193	18.8	85.5	22	4	AAH64301	AaH64301	Control o
121	20.4	92.7	22	6	AAH73191	AbH73191	Nucleotid	194	18.8	85.5	22	4	AAH76000	AaH76000	Control o
122	20.4	92.7	22	6	AAH56351	AaH56351	ISS polyn	195	18.8	85.5	22	4	AAH73345	AaH73345	Immunost
123	20.4	92.7	22	6	AAH56349	AaH56349	ISS polyn	196	18.8	85.5	22	4	AAH92378	AaH92378	CG motif
124	20.4	92.7	22	6	ABA03859	AbA03859	Immunost	197	18.8	85.5	22	5	AAH41582	AaH41582	OIC-M con
125	20.4	92.7	22	6	ABA03857	AbA03857	Immunost	198	18.8	85.5	22	5	AAH41581	AaH41581	OIC-M con
126	20.4	92.7	22	10	ADF09167	AdF09167	Immunomod	199	18.8	85.5	22	5	AAH41581	AaH41581	Non-Immun
127	20.4	92.7	22	10	ADF09172	AdF09172	Immunomod	200	18.8	85.5	22	6	AAH41581	AaH41581	Immunost
128	20.4	92.7	22	10	ADF09171	AdF09171	Immunomod	201	18.8	85.5	22	6	ABA03841	AbA03841	Control p
129	20.4	92.7	22	12	ADK67572	AdK67572	Immunost	202	18.8	85.5	22	6	ABA03842	AbA03842	Control p
130	20.4	92.7	22	12	ADK67574	AdK67574	Immunost	203	18.8	85.5	22	6	ABA03852	AbA03852	Control n
131	20.4	92.7	22	12	ADK67576	AdK67576	Immunost	204	18.8	85.5	22	6	ABA03855	AbA03855	Control n
132	20.4	92.7	22	12	ADJ64046	AdJ64046	Oligonuc	205	18.8	85.5	22	6	AAH16346	AaH16346	Non-ISS p
133	20.4	92.7	22	12	ADJ64031	AdJ64031	Immunost	206	18.8	85.5	22	6	AAH16347	AaH16347	Non-ISS p
134	20.4	92.7	22	12	ADJ64035	AdJ64035	Immunost	207	18.8	85.5	22	6	AAH24893	AaH24893	Mutated o
135	20.4	92.7	22	12	ADJ64036	AdJ64036	Immunost	208	18.8	85.5	22	6	AAH24896	AaH24896	Mutated o
136	20.4	92.7	22	12	ADJ79431	AdJ79431	Immunost	209	18.8	85.5	22	6	AAH21881	AaH21881	Mutated p
137	20.4	92.7	22	12	ADJ79429	AdJ79429	Immunost	210	18.8	85.5	22	6	ABQ75159	AbQ75159	ISS immun
138	20.4	92.7	22	12	ADM06868	AdM06868	Immunost	211	18.8	85.5	22	6	ABQ75216	AbQ75216	ISS immun
139	20.4	92.7	22	12	ADM06864	AdM06864	Immunost	212	18.8	85.5	22	6	ABQ75261	AbQ75261	ISS immun
140	20.4	92.7	22	12	ADM06866	AdM06866	Immunost	213	18.8	85.5	22	6	ABQ75215	AbQ75215	ISS immun
141	20.4	92.7	22	12	ADO55351	AdO55351	Immune mo	214	18.8	85.5	22	6	ABQ75260	AbQ75260	ISS immun
142	20.4	92.7	22	3	AAH21880	AaH21880	Mutated c	215	18.8	85.5	22	6	ABQ73192	AbQ73192	Nucleotid
143	20.2	91.8	22	4	AAH75999	AaH75999	Immunomod	216	18.8	85.5	22	6	ABQ73193	AbQ73193	Nucleotid
144	20.2	91.8	22	5	AAH41580	AaH41580	Immunost	217	18.8	85.5	22	6	AAH44505	AaH44505	CPG motif
145	20.2	90.9	22	3	AAH25881	AaH25881	Immunomod	218	18.8	85.5	22	6	AAH257965	AbH257965	Mutant ol
146	20.2	90.9	22	5	AAH41671	AaH41671	Immunost	219	18.8	85.5	22	8	ABZ77583	AbZ77583	Nucleotid
147	20.2	90.9	22	6	ABA03840	AbA03840	Immunost	220	18.8	85.5	22	9	ADB88885	AdB88885	Chimeric
148	20.2	90.9	22	6	ABA03851	AbA03851	Immunost	221	18.8	85.5	22	9	ADB88886	AdB88886	Chimeric
149	20.2	90.9	22	6	AAH16344	AaH16344	ISS polyn	222	18.8	85.5	22	9	ADB88932	AdB88932	Chimeric
150	20.2	90.9	22	6	ABQ75214	AbQ75214	ISS immun	223	18.8	85.5	22	9	ADB88827	AdB88827	Chimeric
151	20.2	90.9	22	6	ABQ75204	AbQ75204	ISS immun	224	18.8	85.5	22	9	ADB88933	AdB88933	Chimeric
152	20.2	90.9	22	6	AAH56355	AaH56355	ISS polyn	225	18.8	85.5	22	9	ADB88800	AdB88800	Immunost
153	20.2	90.9	22	6	ABA03863	AbA03863	Immunost	226	18.8	85.5	22	10	ADF09174	AdF09174	Immunomod
154	20.2	90.9	22	9	ADB88884	AdB88884	Chimeric	227	18.8	85.5	22	10	ADF09169	AdF09169	Immunomod
155	20.2	90.9	22	9	ADB88887	AdB88887	Chimeric	228	18.8	85.5	22	12	ADK67596	AdK67596	Oligonuc
156	20.2	90.9	22	10	ADF09182	AdF09182	Immunomod	229	18.8	85.5	22	12	ADJ64038	AdJ64038	Immunost
157	20.2	90.9	22	12	ADJ79435	AdJ79435	Immunost	230	18.8	85.5	22	12	ADJ64033	AdJ64033	Immunost
158	19.6	89.1	22	12	AAH77045	AaH77045	Immunost	231	18.8	85.5	22	12	ADP13113	AdP13113	Primer of
159	19.6	89.1	22	12	ADJ64042	AaJ64042	Oligonuc	232	18.8	85.5	22	12	ADP13113	AdP13113	Primer of
160	19.4	88.2	22	3	AAH25887	AaH25887	Immunomod	233	18.8	85.5	22	12	ADP13113	AdP13113	Primer of
161	19.4	88.2	22	4	AAH75997	AaH75997	Immunomod	234	18.8	85.5	22	12	ADP13113	AdP13113	Primer of
162	19.4	88.2	22	5	AAH41578	AaH41578	Immunost	235	18.8	85.5	22	12	ADP13113	AdP13113	Primer of
163	19.4	88.2	22	5	AAH41669	AaH41669	Immunost	236	18.8	85.5	22	12	ADP13113	AdP13113	Primer of
164	19.4	88.2	22	6	ABA03838	AbA03838	Immunost	237	18.8	85.5	22	12	ADP13113	AdP13113	Primer of
165	19.4	88.2	22	6	ABA03849	AbA03849	Immunost	238	18.8	85.5	22	12	ADP13113	AdP13113	Primer of
166	19.4	88.2	22	6	AAH16342	AaH16342	ISS polyn	239	18.8	85.5	22	12	ADP13113	AdP13113	Primer of
167	19.4	88.2	22	6	ABQ75205	AbQ75205	ISS immun	240	18.8	85.5	22	12	ADP13113	AdP13113	Primer of



241	17.8	80.9	22	6	ABQ75209	Abq75209 ISS immun	314	16.2	73.6	22	12	AD055305	Ad055305 Immune mo
242	17.8	80.9	22	6	ABQ75199	Abq75199 ISS immun	315	16.2	73.6	22	12	AD055403	Ad055403 Immune mo
243	17.8	80.9	22	6	ABQ75208	Abq75208 ISS immun	316	16.2	73.6	22	12	AD055304	Ad055304 Immune mo
244	17.8	80.9	22	6	ABQ75198	Abq75198 ISS immun	317	16.2	73.6	22	12	AD055307	Ad055307 Immune mo
245	17.8	80.9	22	9	ADB88935	Adb88935 Chimeric	318	16.2	73.6	22	12	AD055406	Ad055406 Immune mo
246	17.8	80.9	22	9	ADB88934	Adb88934 Chimeric	319	16.2	73.6	22	12	AD055292	Ad055292 Immune mo
247	17.8	80.9	22	9	ADB88878	Adb88878 Chimeric	320	16.2	73.6	22	12	AD055311	Ad055311 Immune mo
248	17.8	80.9	22	9	ADB88868	Adb88868 Chimeric	321	16.2	73.6	22	12	AD055417	Ad055417 Immune mo
249	17.8	80.9	22	9	ADB88869	Adb88869 Chimeric	322	16.2	73.6	22	12	AD055293	Ad055293 Immune mo
250	17.8	80.9	22	9	ADB88879	Adb88879 Chimeric	323	16.2	73.6	22	12	AD055402	Ad055402 Immune mo
251	17.8	80.9	22	12	AD055401	Ad055401 Immune mo	324	16.2	73.6	22	12	AD055421	Ad055421 Immune mo
252	17.8	80.9	22	12	AD055288	Ad055288 Immune mo	325	16.2	73.6	22	12	AD055299	Ad055299 Immune mo
253	17.8	80.9	22	12	AD055295	Ad055295 Immune mo	326	16	72.7	20	6	AD24905	Ad24905 Double-ct
254	17.8	80.9	22	12	AD055303	Ad055303 Immune mo	327	15.8	71.8	20	6	AD24886	Ad24886 Mutated O
255	17.8	80.9	22	12	AD055405	Ad055405 Immune mo	328	15.8	71.8	100	8	ACD78847	Acdd78847 E. coli K
256	17.8	80.9	22	12	AD055289	Ad055289 Immune mo	329	15.6	70.9	22	2	AAV55794	AAv55794 Immunost:
257	17.8	80.9	22	12	AD055291	Ad055291 Immune mo	330	15.6	70.9	22	2	AAV55792	AAv55792 Immunost:
258	17.2	78.2	22	2	AAV80110	AAv80110 Oligo use	331	15.6	70.9	22	4	AAH43339	Aah43339 Immunomod
259	17.2	78.2	22	2	AAV80107	AAv80107 Oligo use	332	15.6	70.9	22	6	ABQ24897	Abq24897 Control-O
260	17.2	78.2	22	2	AAV55791	AAv55791 Immunost:	333	15.6	70.9	22	6	ABQ75161	Abq75161 ISS immun
261	17.2	78.2	22	3	AAH90460	AAa90460 CPG adjuv	334	15.6	70.9	22	9	ADB88829	Adb88829 Chimeric
262	17.2	78.2	22	3	AAZ55878	Aaz55878 Non-immun	335	15.6	70.9	22	12	AD055276	Ad055276 Immune mo
263	17.2	78.2	22	4	AAH20405	Aah20405 CPG motif	336	15.6	70.9	22	12	AD055343	Ad055343 Immune mo
264	17.2	78.2	22	4	AAH43346	Aah43346 Immunomod	337	15.6	70.9	22	12	AD055258	Ad055258 Immune mo
265	17.2	78.2	22	4	AAH92379	Aaa92379 CG motif	338	15.6	70.9	22	12	AD055331	Ad055331 Immune mo
266	17.2	78.2	22	6	ABD24898	Abd24898 Control-O	339	15.6	70.9	22	12	AD055329	Ad055329 Immune mo
267	17.2	78.2	22	6	ABQ75172	Abq75172 ISS immun	340	15.6	70.9	22	12	AD055329	Ad055329 Immune mo
268	17.2	78.2	22	6	ABQ75167	Abq75167 ISS immun	341	15.6	70.9	22	12	AD055339	Ad055339 Immune mo
269	17.2	78.2	22	6	ABQ75160	Abq75160 ISS immun	342	15.6	70.9	22	12	AD055391	Ad055391 Immune mo
270	17.2	78.2	22	6	AAH44506	Aah44506 CPG motif	343	15.6	70.9	22	12	AD055435	Ad055435 Immune mo
271	17.2	78.2	22	9	ADB88828	Adb88828 Chimeric	344	15.6	70.9	22	12	AD055283	Ad055283 Immune mo
272	17.2	78.2	22	9	ADB88840	Adb88840 Chimeric	345	15.6	70.9	22	12	AD055439	Ad055439 Immune mo
273	17.2	78.2	22	9	ADB88835	Adb88835 Chimeric	346	15.6	70.9	22	12	AD055243	Ad055243 Immune mo
274	17.2	78.2	22	10	ADF09179	Adf09179 Immunomod	347	15.6	70.9	22	12	AD055387	Ad055387 Immune mo
275	17.2	78.2	22	10	ADF09175	Adf09175 Immunomod	348	15.6	70.9	22	12	AD055397	Ad055397 Immune mo
276	17.2	78.2	22	12	ADU64043	AdU64043 Oligonuc	349	15.6	70.9	22	12	AD055265	Ad055265 Immune mo
277	17.2	78.2	22	12	ADU64039	AdU64039 Immunolst	350	15.6	70.9	22	12	AD055324	Ad055324 Immune mo
278	17.2	78.2	22	12	AD055323	Ad055323 Immune mo	351	15.6	70.9	22	12	AD055357	Ad055357 Immune mo
279	17.2	78.2	22	12	AD055257	Ad055257 Immune mo	352	15.6	70.9	22	12	AD055267	Ad055267 Immune mo
280	17.2	78.2	22	12	AD055321	Ad055321 Immune mo	353	15.6	70.9	22	12	AD055281	Ad055281 Immune mo
281	17.2	78.2	22	12	AD055339	Ad055339 Immune mo	354	15.6	70.9	22	12	AD055353	Ad055353 Immune mo
282	17.2	78.2	22	12	AD055389	Ad055389 Immune mo	355	15.6	70.9	22	12	AD055375	Ad055375 Immune mo
283	17.2	78.2	22	12	AD055259	Ad055259 Immune mo	356	15.6	70.9	22	12	AD055393	Ad055393 Immune mo
284	17.2	78.2	22	12	AD055433	Ad055433 Immune mo	357	15.6	70.9	22	12	AD055434	Ad055434 Immune mo
285	17.2	78.2	22	12	AD055272	Ad055272 Immune mo	358	15.6	70.9	22	12	AD055441	Ad055441 Immune mo
286	17.2	78.2	22	12	AD055437	Ad055437 Immune mo	359	15.6	70.9	22	12	AD055337	Ad055337 Immune mo
287	17.2	78.2	22	12	AD055263	Ad055263 Immune mo	360	15.6	70.9	22	12	AD055274	Ad055274 Immune mo
288	17.2	78.2	22	12	AD055273	Ad055273 Immune mo	361	15.6	70.9	22	12	AD055322	Ad055322 Immune mo
289	17.2	78.2	22	12	AD055320	Ad055320 Immune mo	362	15.6	70.9	22	12	AD055328	Ad055328 Immune mo
290	17.2	78.2	22	12	AD055327	Ad055327 Immune mo	363	15.6	70.9	22	12	AD055381	Ad055381 Immune mo
291	17.2	78.2	22	12	AD055256	Ad055256 Immune mo	364	15.6	70.9	22	12	AD055438	Ad055438 Immune mo
292	17.2	78.2	22	12	AD055279	Ad055279 Immune mo	365	15.6	70.9	22	12	AD055445	Ad055445 Immune mo
293	17.2	78.2	22	12	AD055335	Ad055335 Immune mo	366	15.6	70.9	22	12	AD055264	Ad055264 Immune mo
294	17.2	78.2	22	12	AD055369	Ad055369 Immune mo	367	15.6	70.9	22	12	AD055277	Ad055277 Immune mo
295	17.2	78.2	22	12	AD055385	Ad055385 Immune mo	368	15.6	70.9	22	12	AD055386	Ad055386 Immune mo
296	17.2	78.2	22	12	AD055373	Ad055373 Immune mo	369	15.6	70.9	22	12	AD055370	Ad055370 Immune mo
297	17.2	78.2	22	12	AD055275	Ad055275 Immune mo	370	15.6	70.9	22	12	AD055371	Ad055371 Immune mo
298	17	77.3	22	6	ABQ75212	Abq75212 ISS immun	371	15.6	70.9	22	12	AD055449	Ad055449 Immune mo
299	17	77.3	22	6	ABQ75163	Abq75163 ISS immun	372	15.6	70.9	22	12	AD055241	Ad055241 Immune mo
300	17	77.3	22	6	ABQ75211	Abq75211 ISS immun	373	15.6	70.9	22	12	AD055247	Ad055247 Immune mo
301	17	77.3	22	9	ADB88881	Adb88881 Chimeric	374	15.6	70.9	22	12	AD055453	Ad055453 Immune mo
302	17	77.3	22	9	ADB88831	Adb88831 Chimeric	375	15.6	70.9	22	12	AD055240	Ad055240 Immune mo
303	17	77.3	22	9	ADB88882	Adb88882 Chimeric	376	15.6	70.9	22	12	AD055260	Ad055260 Immune mo
304	16.4	74.5	18	6	ABQ75166	Abq75166 ISS immun	377	15.6	70.9	22	12	AD055280	Ad055280 Immune mo
305	16.4	74.5	18	6	ABQ75219	Abq75219 ISS immun	378	15.6	70.9	22	12	AD055325	Ad055325 Immune mo
306	16.4	74.5	18	9	ADB88889	Adb88889 Chimeric	379	15.6	70.9	22	12	AD055377	Ad055377 Immune mo
307	16.4	74.5	18	9	ADB88834	Adb88834 Chimeric	380	15.6	70.9	22	12	AD055374	Ad055374 Immune mo
308	16.2	73.6	22	12	AD055290	Ad055290 Immune mo	381	15.6	70.9	22	12	AD055336	Ad055336 Immune mo
309	16.2	73.6	22	12	AD055297	Ad055297 Immune mo	382	15.6	70.9	22	12	AD055390	Ad055390 Immune mo
310	16.2	73.6	22	12	AD055407	Ad055407 Immune mo	383	15.4	70.0	18	6	ABQ75180	Abq75180 ISS immun
311	16.2	73.6	22	12	AD055409	Ad055409 Immune mo	384	15.4	70.0	18	9	ADB88848	Adb88848 Chimeric
312	16.2	73.6	22	12	AD055296	Ad055296 Immune mo	385	15.4	70.0	21	2	AAV80108	AAv80108 Oligo use
313	16.2	73.6	22	12	AD055413	Ad055413 Immune mo	386	15.4	70.0	21	10	ADF09176	Adf09176 Immunomod

387	15.4	70.0	21	12	ADJ64040	AdJ64040	Immunoist	460	14	63.6	22	12	AD055262	AD055262	Immune mo
388	15.4	70.0	23	10	AAV80109	AaV80109	Oligo use	461	14	63.6	22	12	AD055340	AD055340	Immune mo
389	15.4	70.0	23	10	ADP09177	AdP09177	Immunomod	462	14	63.6	22	12	AD055379	AD055379	Immune mo
390	15.4	70.0	23	12	ADJ64041	AdJ64041	Immunolst	463	14	63.6	22	12	AD055399	AD055399	Immune mo
391	15	68.2	21	6	AB075182	Ab075182	ISS immun	464	14	63.6	22	12	AD055455	AD055455	Immune mo
392	15	68.2	21	12	ADK67599	AdK67599	Immunosti	465	14	63.6	22	12	AD055266	AD055266	Immune mo
393	15	68.2	23	3	AAV80098	AaV80098	Immunomod	466	14	63.6	22	12	AD055344	AD055344	Immune mo
394	15	68.2	23	3	AAA38067	AaA38067	Immunosti	467	14	63.6	22	12	AD055347	AD055347	Immune mo
395	15	68.2	23	4	AAH75994	AaH75994	Immunomod	468	14	63.6	22	12	AD055354	AD055354	Immune mo
396	15	68.2	23	4	AAH77042	AaH77042	Immunosti	469	14	63.6	22	12	AD055454	AD055454	Immune mo
397	15	68.2	23	5	AAH41575	AaH41575	Immunosti	470	14	63.6	22	12	AD055330	AD055330	Immune mo
398	15	68.2	23	5	AAH41575	AaH41575	Immunosti	471	14	63.6	22	12	AD055395	AD055395	Immune mo
399	15	68.2	23	6	ABA03855	AbA03855	Immunosti	472	14	63.6	22	12	AD055251	AD055251	Immune mo
400	15	68.2	23	6	ABA03846	AbA03846	Immunosti	473	14	63.6	22	12	AD055358	AD055358	Immune mo
401	15	68.2	23	6	AAH16339	AaH16339	ISS polyn	474	14	63.6	22	12	AD055359	AD055359	Immune mo
402	15	68.2	23	6	AAH16330	AaH16330	ISS polyn	475	14	63.6	22	12	AD055372	AD055372	Immune mo
403	15	68.2	23	6	ABA03858	AbA03858	Immunosti	476	14	63.6	22	12	AD055394	AD055394	Immune mo
404	15	68.2	23	10	ADP09170	AdP09170	Immunomod	477	14	63.6	22	12	AD055398	AD055398	Immune mo
405	15	68.2	23	12	ADK67573	AdK67573	Immunosti	478	14	63.6	22	12	AD055461	AD055461	Immune mo
406	15	68.2	23	12	ADJ64034	AdJ64034	Immunolst	479	14	63.6	22	12	AD055284	AD055284	Immune mo
407	15	68.2	23	12	ADJ79430	AdJ79430	Immunosti	480	14	63.6	22	12	AD055355	AD055355	Immune mo
408	15	68.2	23	12	ADW06865	AdW06865	Immunosti	481	14	63.6	22	12	AD055269	AD055269	Immune mo
409	14.8	67.3	18	6	AB075165	Ab075165	ISS immun	482	14	63.6	22	12	AD055440	AD055440	Immune mo
410	14.8	67.3	18	9	ADB88833	AdB88833	Chimeric	483	14	63.6	22	12	AD055435	AD055435	Immune mo
411	14.6	66.4	22	12	AD055315	Ad055315	Immune mo	484	14	63.6	22	12	AD055442	AD055442	Immune mo
412	14.6	66.4	22	12	AD055314	Ad055314	Immune mo	485	14	63.6	22	12	AD055446	AD055446	Immune mo
413	14.6	66.4	22	12	AD055294	Ad055294	Immune mo	486	14	63.6	22	12	AD055326	AD055326	Immune mo
414	14.6	66.4	22	12	AD055313	Ad055313	Immune mo	487	14	63.6	22	12	AD055345	AD055345	Immune mo
415	14.6	66.4	22	12	AD055422	Ad055422	Immune mo	488	14	63.6	22	12	AD055365	AD055365	Immune mo
416	14.6	66.4	22	12	AD055429	Ad055429	Immune mo	489	14	63.6	22	12	AD055388	AD055388	Immune mo
417	14.6	66.4	22	12	AD055306	Ad055306	Immune mo	490	14	63.6	22	12	AD055248	AD055248	Immune mo
418	14.6	66.4	22	12	AD055308	Ad055308	Immune mo	491	14	63.6	22	12	AD055443	AD055443	Immune mo
419	14.6	66.4	22	12	AD055309	Ad055309	Immune mo	492	14	63.6	22	12	AD055451	AD055451	Immune mo
420	14.6	66.4	22	12	AD055408	Ad055408	Immune mo	493	14	63.6	22	12	AD055249	AD055249	Immune mo
421	14.6	66.4	22	12	AD055419	Ad055419	Immune mo	494	14	63.6	22	12	AD055376	AD055376	Immune mo
422	14.6	66.4	22	12	AD055301	Ad055301	Immune mo	495	14	63.6	22	12	AD055378	AD055378	Immune mo
423	14.6	66.4	22	12	AD055404	Ad055404	Immune mo	496	14	63.6	22	12	AD055242	AD055242	Immune mo
424	14.6	66.4	22	12	AD055410	Ad055410	Immune mo	497	14	63.6	22	12	AD055268	AD055268	Immune mo
425	14.6	66.4	22	12	AD055418	Ad055418	Immune mo	498	14	63.6	22	12	AD055457	AD055457	Immune mo
426	14.6	66.4	22	12	AD055298	Ad055298	Immune mo	499	14	63.6	22	12	AD055278	AD055278	Immune mo
427	14.6	66.4	22	12	AD055300	Ad055300	Immune mo	500	14	63.6	22	12	AD055332	AD055332	Immune mo
428	14.6	66.4	22	12	AD055312	Ad055312	Immune mo	501	14	63.6	22	12	AD055392	AD055392	Immune mo
429	14.6	66.4	22	12	AD055411	Ad055411	Immune mo	502	14	63.6	22	12	AD055450	AD055450	Immune mo
430	14.6	66.4	22	12	AD055415	Ad055415	Immune mo	503	14	63.6	25	9	ACT12667	ACT12667	Immune mo
431	14.6	66.4	22	12	AD055423	Ad055423	Immune mo	504	14	63.6	50	6	ABZ01167	ABZ01167	Human Leu
432	14.6	66.4	22	12	AD055425	Ad055425	Immune mo	505	14	63.6	50	10	ADG31421	ADG31421	Human DNA
433	14.6	66.4	25	9	ACT04460	AcI04460	Human m/c	506	14	63.6	65	6	ABN53383	ABN53383	Mouse gp1
434	14.6	66.4	25	9	ACT05096	AcI05096	Human m/c	507	14	63.6	77	2	AAH88829	AAH88829	Secretory
435	14.6	66.4	65	6	ABN53180	AbN53180	Mouse spl	508	14	63.6	90	12	ACH91017	ACH91017	Human gen
436	14.2	64.5	24	8	ABZ21886	AbZ21886	H. vltresc	509	14	63.6	95	2	AAH58006	AAH58006	F-selecci
437	14.2	64.5	51	4	AAH12632	AaH12632	Human SNP	510	14	63.6	95	9	ADA21988	ADA21988	HGF aptam
438	14	63.6	19	6	AB075170	Ab075170	ISS immun	511	13.8	62.7	25	9	ACI25477	ACI25477	Human m/c
439	14	63.6	19	6	AB075174	Ab075174	ISS immun	512	13.8	62.7	25	9	ACI12026	ACI12026	Human m/c
440	14	63.6	19	6	AB075175	Ab075175	ISS immun	513	13.8	62.7	78	2	AAH76419	AAH76419	Human b/a
441	14	63.6	19	9	ADB88843	AdB88843	Chimeric	514	13.8	62.7	78	2	AAH11568	AAH11568	Human b/a
442	14	63.6	19	9	ADB88848	AdB88848	Chimeric	515	13.6	61.8	25	9	ACT142037	ACT142037	Human m/c
443	14	63.6	19	9	ADB88842	AdB88842	Chimeric	516	13.6	61.8	29	4	AAH49341	AAH49341	Human b/a
444	14	63.6	19	9	ACCA8849	AcC8849	Chimeric	517	13.6	61.8	33	6	ABV77651	ABV77651	Human ANI
445	14	63.6	20	6	AB075220	Ab075220	ISS immun	518	13.6	61.8	51	4	AAH33200	AAH33200	Human SNP
446	14	63.6	20	6	ADB88850	AdB88850	Chimeric	519	13.6	61.8	60	6	ABH43331	ABH43331	Human gp1
447	14	63.6	20	6	AB075181	Ab075181	ISS immun	520	13.6	61.8	62	3	AAH296919	AAH296919	S. cerevi
448	14	63.6	22	2	ADB88849	AdB88849	Chimeric	521	13.6	61.8	77	2	AAH70825	AAH70825	Human b/a
449	14	63.6	22	12	AD055245	Ad055245	Immune mo	522	13.6	61.8	77	4	AAH70825	AAH70825	Human b/a
450	14	63.6	22	12	AD055285	Ad055285	Immune mo	523	13.6	61.8	85	4	AAH25446	AAH25446	Prode #15
451	14	63.6	22	12	AD055361	Ad055361	Immune mo	524	13.6	61.8	85	4	ABA71541	ABA71541	Human f/e
452	14	63.6	22	12	AD055244	Ad055244	Immune mo	525	13.6	61.8	85	4	AAH51816	AAH51816	Prode #70
453	14	63.6	22	12	AD055282	Ad055282	Immune mo	526	13.6	61.8	85	4	ABA37708	ABA37708	Prode #16
454	14	63.6	22	12	AD055333	Ad055333	Immune mo	527	13.6	61.8	85	4	AAH45898	AAH45898	Human Don
455	14	63.6	22	12	AD055341	Ad055341	Immune mo	528	13.6	61.8	85	4	AAH19870	AAH19870	Human b/a
456	14	63.6	22	12	AD055383	Ad055383	Immune mo	529	13.6	61.8	85	4	AAH45595	AAH45595	Human liv
457	14	63.6	22	12	AD055338	Ad055338	Immune mo	530	13.6	61.8	85	6	ABH20182	ABH20182	Human gen
458	14	63.6	22	12	AD055382	Ad055382	Immune mo	531	13.6	61.8	97	2	AAH81923	AAH81923	Interfero
459	14	63.6	22	12	AD055447	Ad055447	Immune mo	532	13.6	61.8	98	2	AAH81897	AAH81897	Interfero

C 533	13.6	61.8	98 2	AAQ81895	AaQ81895 Interfero	C 606	12.8	58.2	29 12	AD012948	Ad012948 Single mu
C 534	13.6	61.8	98 2	AAQ81931	AaQ81931 Interfero	C 607	12.8	58.2	30 2	AAV12042	AaV12042 Primer NX
C 535	13.6	61.8	98 2	AAQ81920	AaQ81920 Interfero	C 608	12.8	58.2	30 6	ABK47427	AbK47427 Human gam
C 536	13.6	61.8	98 2	AAQ81659	AaQ81659 bRFG bind	C 609	12.8	58.2	30 12	ADP70820	AdP70820 Humanized
C 538	13.2	60.0	25 9	ACI70189	AcI70189 Human mic	C 610	12.8	58.2	31 4	AAE73185	AaE73185 acFv(Dig)
C 539	13.2	60.0	25 9	ADK61717	AdK61717 Primer of	C 611	12.8	58.2	36 2	AAQ84541	AaQ84541 Mycobacte
C 540	13.2	60.0	25 9	ACI69977	AcI69977 Human mic	C 612	12.8	58.2	41 5	AAE82307	AaE82307 Primer #2
C 541	13.2	60.0	25 9	ACI98069	AcI98069 Human mic	C 613	12.8	58.2	60 6	ABN47357	Abn47357 Human spl
C 542	13.2	60.0	25 9	ACI26771	AcI26771 Human mic	C 614	12.6	57.3	19 3	AAA57373	AAA57373 PCR prime
C 543	13.2	60.0	25 9	ACK15038	AcK15038 Human mic	C 615	12.6	57.3	20 6	ABK95430	AbK95430 Human ret
C 544	13.2	60.0	36 5	AAZ10583	AaZ10583 Human mic	C 616	12.6	57.3	25 9	ACI50104	AcI50104 Human mic
C 545	13.2	60.0	36 5	AAE62393	AaE62393 PCR prime	C 617	12.6	57.3	25 9	ACK09388	AcK09388 Human mic
C 546	13.2	60.0	36 5	AAE77169	AaE77169 Primer F2	C 618	12.6	57.3	25 9	ACI19172	AcI19172 Human mic
C 547	13.2	60.0	41 6	ABZ49548	AbZ49548 Human glu	C 619	12.6	57.3	25 9	AAE58314	AAE58314 Probe #1
C 548	13.2	60.0	41 6	ABZ43956	AbZ43956 Human glu	C 620	12.6	57.3	25 10	ADE37832	AdE37832 Human cal
C 549	13.2	60.0	45 4	AAAC8250	AaA82250 Human ret	C 621	12.6	57.3	25 12	ADL26886	AdL26886 Probe #1
C 550	13.2	60.0	59 3	AAZ86812	AaZ86812 S. cerevi	C 622	12.6	57.3	25 12	ADL26903	AdL26903 Probe #1
C 551	13.2	60.0	65 6	ABN29802	Abn29802 Rat splc	C 623	12.6	57.3	25 12	ADP07241	AdP07241 Human cal
C 552	13.2	60.0	65 6	ABN54932	Abn54932 Mouse spl	C 624	12.6	57.3	26 2	AAQ84527	AaQ84527 Mycobacte
C 553	13.2	60.0	74 6	ABK39554	AbK39554 CDNA enco	C 625	12.6	57.3	26 6	AAI43781	AaI43781 Human NOV
C 554	13.2	60.0	74 8	ACA11883	AcA11883 Human lun	C 626	12.6	57.3	26 6	AAI43799	AaI43799 Human NOV
C 555	13.2	60.0	74 8	ACA03069	AcA03069 Lung canc	C 627	12.6	57.3	26 10	ABE28995	AbE28995 SF5 PCR P
C 556	13.2	60.0	77 2	ADH47111	AdH47111 Human lun	C 628	12.6	57.3	26 10	ADD72168	AdD72168 Human NOV
C 557	13.2	60.0	77 2	AAE77633	AaE77633 Nucleic a	C 629	12.6	57.3	26 10	ADD72150	AdD72150 Human NOV
C 558	13.2	60.0	84 8	ACA03969	AcA03969 CDNA down	C 630	12.6	57.3	26 12	ADM93740	AdM93740 Human NOV
C 559	13.2	60.0	87 6	AAI49918	AaI49918 Rat pro-o	C 631	12.6	57.3	26 12	AD031876	AdO31876 Human CFT
C 560	13.2	60.0	97 2	AAQ81916	AaQ81916 Interfero	C 632	12.6	57.3	27 2	ADA34344	AdA34344 Human aat
C 561	13.2	60.0	98 2	AAQ81919	AaQ81919 Interfero	C 633	12.6	57.3	27 6	ABA98998	AbA98998 Human aat
C 562	13.2	60.0	20 6	ABQ75171	AbQ75171 ISS immu	C 634	12.6	57.3	30 4	AAE74420	AaE74420 PCR prime
C 563	13.2	60.0	20 6	ABQ75171	AbQ75171 ISS immu	C 635	12.6	57.3	30 9	ACC85418	AcC85418 Xylanaase
C 564	13.2	60.0	20 9	ADH88839	AdH88839 Chimeric	C 636	12.6	57.3	30 9	AAQ45505	AaQ45505 Sequence
C 565	13.2	60.0	22 12	AD055317	AdO55317 Immune mo	C 637	12.6	57.3	31 6	ACN21930	AcN21930 MNV DNazY
C 566	13.2	60.0	22 12	AD055424	AdO55424 Immune mo	C 638	12.6	57.3	31 6	ABU57797	AbU57797 Oligonuc
C 567	13.2	60.0	22 12	AD055420	AdO55420 Immune mo	C 639	12.6	57.3	39 6	ABE57799	AbE57799 Oligonuc
C 568	13.2	60.0	22 12	AD055427	AdO55427 Immune mo	C 640	12.6	57.3	41 8	ABE57718	AbE57718 Human bod
C 569	13.2	60.0	22 12	AD055430	AdO55430 Immune mo	C 641	12.6	57.3	42 6	ABU53397	AbU53397 Oligonuc
C 570	13.2	60.0	22 12	AD055302	AdO55302 Immune mo	C 642	12.6	57.3	42 6	ABU57798	AbU57798 Oligonuc
C 571	13.2	60.0	22 12	AD055416	AdO55416 Immune mo	C 643	12.6	57.3	42 6	ABU57797	AbU57797 Oligonuc
C 572	13.2	60.0	22 12	AD055314	AdO55314 Immune mo	C 644	12.6	57.3	42 6	ABU57799	AbU57799 Oligonuc
C 573	13.2	60.0	22 12	AD055316	AdO55316 Immune mo	C 645	12.6	57.3	42 6	ABU57800	AbU57800 Oligonuc
C 574	13.2	60.0	22 12	AD055426	AdO55426 Immune mo	C 646	12.6	57.3	42 6	ABU53398	AbU53398 Oligonuc
C 575	13.2	60.0	22 12	AD055412	AdO55412 Immune mo	C 647	12.6	57.3	42 6	AAE71742	AaE71742 Primer PC
C 576	13.2	60.0	22 12	AD055431	AdO55431 Immune mo	C 648	12.6	57.3	59 2	AAE742373	AaE742373 Clone X3,
C 577	13.2	60.0	25 9	ACI77675	AcI77675 Human mic	C 649	12.6	57.3	60 6	ABN31712	Abn31712 Human spl
C 578	13.2	60.0	25 9	ACI77675	AcI77675 Human mic	C 650	12.6	57.3	60 6	ABN37900	Abn37900 Human spl
C 579	13.2	60.0	25 9	ACI04461	AcI04461 Human mic	C 651	12.6	57.3	60 6	ABN46605	Abn46605 Human spl
C 580	13.2	60.0	25 9	ACI05097	AcI05097 Human mic	C 652	12.6	57.3	61 4	AAK96541	AaK96541 Human neu
C 581	13.2	60.0	30 12	AAA40653	AaA40653 SHR seque	C 653	12.6	57.3	61 4	AAK98034	AaK98034 Human neu
C 582	13.2	60.0	30 12	AD011653	AdO11653 Single mu	C 654	12.6	57.3	61 6	ABE701311	AbE701311 Human neu
C 583	13.2	60.0	34 4	AAH43249	AaH43249 Single mu	C 655	12.6	57.3	61 6	ABE702804	AbE702804 Human neu
C 584	13.2	60.0	34 4	AAH43249	AaH43249 Single mu	C 656	12.6	57.3	65 6	ABN31710	Abn31710 Rat splc
C 585	13.2	60.0	50 6	ABZ07428	AbZ07428 Human leu	C 657	12.6	57.3	65 6	ABN54743	Abn54743 Mouse spl
C 586	13.2	60.0	50 6	ABZ07134	AbZ07134 Human leu	C 658	12.6	57.3	65 6	ABN52198	Abn52198 Mouse spl
C 587	13.2	60.0	50 6	ABZ06744	AbZ06744 Human leu	C 659	12.6	57.3	65 12	ADP97276	AdP97276 C. albica
C 588	13.2	60.0	50 6	ABZ07507	AbZ07507 Human leu	C 660	12.6	57.3	76 2	AAE706175	AaE706175 HIV-1 int
C 589	13.2	60.0	60 6	AAE71740	AaE71740 Primer PC	C 661	12.6	57.3	80 12	ADM955238	AdM955238 Rat antis
C 590	13.2	60.0	60 6	ABN50173	Abn50173 Human spl	C 662	12.6	57.3	80 12	ADM955238	AdM955238 Rat antis
C 591	13.2	60.0	60 6	ABN45148	Abn45148 Human spl	C 663	12.6	57.3	82 2	AAE59050	AaE59050 Oligonuc
C 592	13.2	60.0	65 6	ABN29877	Abn29877 Rat splc	C 664	12.6	57.3	97 2	AAQ81644	AaQ81644 bRFG bind
C 593	13.2	60.0	65 6	AAAS13026	AaA13026 DNA enco	C 665	12.6	57.3	98 2	AAQ81914	AaQ81914 Interfero
C 594	13.2	60.0	69 8	ACCA1576	AcC1576 Human zln	C 666	12.6	57.3	98 2	AAQ80994	AaQ80994 HIV proce
C 595	13.2	60.0	69 8	ABSA17978	AbS17978 Human gen	C 667	12.6	57.3	98 2	AAQ80971	AaQ80971 HIV proce
C 596	13.2	60.0	100 8	ACD79902	AcD79902 E. coli K	C 668	12.6	57.3	98 2	AAQ80985	AaQ80985 HIV proce
C 597	12.8	58.2	16 10	ADD01105	AdD01105 CGP K Oli	C 669	12.6	57.3	98 2	AAQ80962	AaQ80962 HIV proce
C 598	12.8	58.2	20 12	AAAX92040	AaX92040 PCR prime	C 670	12.6	57.3	99 2	AAQ81654	AaQ81654 bRFG bind
C 599	12.8	58.2	22 12	AD078325	AdO78325 Human HRA	C 671	12.6	57.3	19 6	ABQ75221	AbQ75221 ISS immu
C 600	12.8	58.2	24 12	AD055224	AdO55224 Generic I	C 672	12.4	56.4	19 9	ADB88891	AdB88891 Chimeric
C 601	12.8	58.2	25 9	ACI54468	AcI54468 Human mic	C 673	12.4	56.4	19 9	ADB88892	AdB88892 Chimeric
C 602	12.8	58.2	25 9	ACHS5168	AcH5168 DNA targ	C 674	12.4	56.4	20 2	AAE41866	AaE41866 IL-12 rec
C 603	12.8	58.2	25 9	ACHS2796	AcH2796 DNA targ	C 675	12.4	56.4	20 2	AAE61013	AaE61013 Nucleotid
C 604	12.8	58.2	25 10	ABX14938	AbX14938 Unlamp PC	C 676	12.4	56.4	20 3	AAE47942	AaE47942 Immuno
C 605	12.8	58.2	29 12	AD012905	AdO12905 Single mu	C 678	12.4	56.4	20 3	AAE47889	AaE47889 Immuno

C 679	12.4	56.4	20 3	AA247611	Parasitic	752	12.4	56.4	60 6	ABN36129	Abh36129 Human spl
C 680	12.4	56.4	20 4	AAE98777	CPG Immun	C 753	12.4	56.4	60 6	ABN37642	Abh37642 Human spl
C 681	12.4	56.4	20 8	ABX98982	Cancer me	C 754	12.4	56.4	60 10	AAD64556	Aad64556 CERBER1c-R
C 682	12.4	56.4	20 9	ACA92748	Immunosti	C 755	12.4	56.4	65 6	ABN55536	Abn55536 Mouse spl
C 683	12.4	56.4	20 10	ABX76080	Immunosti	C 756	12.4	56.4	65 6	ABN31808	Abn31808 Rat splic
C 684	12.4	56.4	20 10	ACA58745	Gastric u	C 757	12.4	56.4	65 6	ABN56556	Abn56556 Mouse spl
C 685	12.4	56.4	20 12	AD010650	Single mu	C 758	12.4	56.4	65 6	ABN51073	Abn51073 Mouse spl
C 686	12.4	56.4	20 12	AD007510	Immunosti	C 759	12.4	56.4	65 6	ABN21768	Abn21768 Rat splic
C 687	12.4	56.4	22 2	AAE94477	Human ST	C 760	12.4	56.4	65 6	ABN56691	Abn56691 Human spl
C 688	12.4	56.4	22 12	AD055334	Immunite mo	C 761	12.4	56.4	73 2	AAE71359	AAE71359 Red blood
C 689	12.4	56.4	22 12	AD055352	Immunite mo	C 762	12.4	56.4	76 2	AAE06180	AAE06180 HIV-1 int
C 690	12.4	56.4	22 12	AD055356	Immunite mo	C 763	12.4	56.4	76 2	AAE06150	AAE06150 Rat antic
C 691	12.4	56.4	22 12	AD055444	Immunite mo	C 764	12.4	56.4	80 12	AAE95150	AAE95150 Rat antic
C 692	12.4	56.4	22 12	AD055348	Immunite mo	C 765	12.4	56.4	81 2	AAE88556	AAE88556 Secretary
C 693	12.4	56.4	22 12	AD055349	Immunite mo	C 766	12.4	56.4	90 3	AAE94879	AAE94879 Primer #1
C 694	12.4	56.4	22 12	AD055456	Immunite mo	C 767	12.4	56.4	90 12	ACH84066	ACH84066 Human gen
C 695	12.4	56.4	22 12	AD055452	Immunite mo	C 768	12.4	56.4	92 3	AAE94876	AAE94876 Primer #1
C 696	12.4	56.4	22 12	AD055342	Immunite mo	C 769	12.4	56.4	100 8	ACD76485	ACD76485 E. coli K
C 697	12.4	56.4	22 12	AD055396	Immunite mo	C 770	12.4	56.4	100 8	ACD76486	ACD76486 E. coli K
C 698	12.4	56.4	22 12	AD055360	Immunite mo	C 771	12.4	56.4	100 8	ACD76484	ACD76484 E. coli K
C 699	12.4	56.4	22 12	AD055380	Immunite mo	C 772	12.4	56.4	100 8	ACD78659	ACD78659 E. coli K
C 700	12.4	56.4	22 12	AD055384	Immunite mo	C 773	12.4	56.4	100 8	ACD69946	ACD69946 E. coli K
C 701	12.4	56.4	22 12	AD055346	Immunite mo	C 774	12.4	56.4	100 8	ABE09799	ABE09799 Human oli
C 702	12.4	56.4	22 12	AD055270	Immunite mo	C 775	12.4	56.4	100 10	ABE27952	ABE27952 Tumour su
C 703	12.4	56.4	22 12	AD055367	Immunite mo	C 776	12.4	56.4	16 10	ADE94154	ADE94154 Alcohol/a
C 704	12.4	56.4	22 12	AD055253	Immunite mo	C 777	12.4	56.4	17 6	ABE74567	ABE74567 Human PAP
C 705	12.4	56.4	22 12	AD055366	Immunite mo	C 778	12.4	56.4	17 10	ADOC4751	ADOC4751 Human Na/
C 706	12.4	56.4	22 12	AD055286	Immunite mo	C 779	12.4	56.4	20 6	ABE91197	ABE91197 Human uti
C 707	12.4	56.4	22 12	AD055458	Immunite mo	C 780	12.4	56.4	20 6	ABE95426	ABE95426 Human ret
C 708	12.4	56.4	22 12	AD055462	Immunite mo	C 781	12.4	56.4	21 12	ADU76558	ADU76558 MMP9 forw
C 709	12.4	56.4	22 12	AD055463	Immunite mo	C 782	12.4	56.4	22 12	ADU78324	ADU78324 Human HRA
C 710	12.4	56.4	22 12	AD055346	Immunite mo	C 783	12.4	56.4	22 12	ADU78316	ADU78316 Human HRA
C 711	12.4	56.4	22 12	AD055362	Immunite mo	C 784	12.4	56.4	23 6	ABE152774	ABE152774 Primer fo
C 712	12.4	56.4	22 12	AD055448	Immunite mo	C 785	12.4	56.4	23 10	ADCI9957	ADCI9957 Luciferin
C 713	12.4	56.4	22 12	AD055250	Immunite mo	C 786	12.4	56.4	24 6	ABE62372	ABE62372 Analyte s
C 714	12.4	56.4	22 12	AD055400	Immunite mo	C 787	12.4	56.4	24 6	ABE62310	ABE62310 Analyte s
C 715	12.4	56.4	22 12	AD055409	Immunite mo	C 788	12.4	56.4	25 6	ABE75382	ABE75382 Human PAP
C 716	12.4	56.4	22 12	AD055363	Immunite mo	C 789	12.4	56.4	25 6	ABE75385	ABE75385 Human PAP
C 717	12.4	56.4	23 2	AAE54305	Immunite mo	C 790	12.4	56.4	25 6	ABE75388	ABE75388 Human PAP
C 718	12.4	56.4	23 2	AAE53387	Soluble s	C 791	12.4	56.4	25 6	ABE75387	ABE75387 Human PAP
C 719	12.4	56.4	23 2	AAE53387	Human ST	C 792	12.4	56.4	25 6	ABE75387	ABE75387 Human PAP
C 720	12.4	56.4	24 6	ABE18822	Capture o	C 793	12.4	56.4	25 6	ABE75389	ABE75389 Human PAP
C 721	12.4	56.4	24 6	ABE18823	Capture o	C 794	12.4	56.4	25 6	ABE75390	ABE75390 Human PAP
C 722	12.4	56.4	25 9	ACI59885	Human m/c	C 795	12.4	56.4	25 6	ABE75384	ABE75384 Human PAP
C 723	12.4	56.4	25 9	ACI00292	Human m/c	C 796	12.4	56.4	25 6	ABE75383	ABE75383 Human PAP
C 724	12.4	56.4	25 9	ACI42666	Human m/c	C 797	12.4	56.4	25 9	ACI47071	ACI47071 Human m/c
C 725	12.4	56.4	25 9	ACH58951	DNA targe	C 798	12.4	56.4	25 9	ACI40498	ACI40498 Human m/c
C 726	12.4	56.4	25 9	ACH58825	DNA targe	C 799	12.4	56.4	25 9	ACI92612	ACI92612 Human m/c
C 727	12.4	56.4	26 10	ADP48551	Rice oilig	C 800	12.4	56.4	25 9	ACI25476	ACI25476 Human m/c
C 728	12.4	56.4	32 9	AAE62884	FCGammari	C 801	12.4	56.4	25 9	ACR03560	ACR03560 Human m/c
C 729	12.4	56.4	34 2	AAE78759	Bacillus	C 802	12.4	56.4	25 9	ACI12027	ACI12027 Human m/c
C 730	12.4	56.4	34 3	AAE38712	Spinach m	C 803	12.4	56.4	25 9	ACK16359	ACK16359 Human m/c
C 731	12.4	56.4	34 4	AAE54569	Primer us	C 804	12.4	56.4	25 9	ACK20867	ACK20867 Human m/c
C 732	12.4	56.4	34 6	AAE32867	PCR prime	C 805	12.4	56.4	25 9	ACK160157	ACK160157 Human m/c
C 733	12.4	56.4	34 6	AAE33934	PCR prime	C 806	12.4	56.4	25 9	ACH62559	ACH62559 DNA targe
C 734	12.4	56.4	34 6	ABN87464	Spinach R	C 807	12.4	56.4	25 10	ADOC6255	ADOC6255 Human Na/
C 735	12.4	56.4	34 8	ABE34071	Spinach m	C 808	12.4	56.4	25 10	ADOC6261	ADOC6261 Human Na/
C 736	12.4	56.4	41 6	ABE244232	Human ATP	C 809	12.4	56.4	25 10	ADOC6263	ADOC6263 Human Na/
C 737	12.4	56.4	41 6	ABE245471	Human ATP	C 810	12.4	56.4	25 10	ADOC6256	ADOC6256 Human Na/
C 738	12.4	56.4	42 6	ABE245471	Human ATP	C 811	12.4	56.4	25 10	ADOC6256	ADOC6256 Human Na/
C 739	12.4	56.4	42 6	ABE246877	Human ATP	C 812	12.4	56.4	25 10	ADOC6258	ADOC6258 Human Na/
C 740	12.4	56.4	45 4	AAE03142	Escherich	C 813	12.4	56.4	25 10	ADOC6257	ADOC6257 Human Na/
C 741	12.4	56.4	50 6	ABE206947	Human leu	C 814	12.4	56.4	25 10	ADOC6259	ADOC6259 Human Na/
C 742	12.4	56.4	50 6	ABE202880	Human leu	C 815	12.4	56.4	25 10	ADOC6262	ADOC6262 Human Na/
C 743	12.4	56.4	50 6	ABE204562	Human leu	C 816	12.4	56.4	26 2	AAE59924	AAE59924 PCR prime
C 744	12.4	56.4	50 6	ABE206557	Human leu	C 817	12.4	56.4	26 2	AAE700498	AAE700498 Human tum
C 745	12.4	56.4	51 4	AAE40660	Human SNP	C 818	12.4	56.4	29 6	ABE14531	ABE14531 Human tum
C 746	12.4	56.4	54 12	ADP90576	Human hea	C 819	12.4	56.4	29 6	ABE88688	ABE88688 Human TNP
C 747	12.4	56.4	59 2	AAE28089	PCR prime	C 820	12.4	56.4	29 6	ABE13406	ABE13406 Tumour ne
C 748	12.4	56.4	60 6	ABN40270	Human spl	C 821	12.4	56.4	29 10	ADP72616	ADP72616 PCR prime
C 749	12.4	56.4	60 6	ABN43618	Human spl	C 822	12.4	56.4	29 10	ADP72616	ADP72616 Human tum
C 750	12.4	56.4	60 6	ABN49933	Human spl	C 823	12.4	56.4	38 3	AAE73487	AAE73487 Single ba
C 751	12.4	56.4	60 6	ABN45083	Human spl	C 824	12.4	56.4	39 6	ABE71883	ABE71883 Apepgr111

C 825	12.2	55.5	40	10	ACa55229	Human Ige	C 898	12	54.5	25	9	ACT143637	Act143637 Human mic
C 826	12.2	55.5	40	10	ACa55211	Human Ige	C 899	12	54.5	25	9	ACT124038	Act124038 Human mic
C 827	12.2	55.5	40	10	ACa55191	Canine Ig	C 900	12	54.5	25	9	ACT156079	Act156079 Human mic
C 828	12.2	55.5	42	8	ABZ822299	RAM2 anti	C 901	12	54.5	25	9	ACT164627	Act164627 Human mic
C 829	12.2	55.5	43	6	AA149906	Rat pro-o	C 902	12	54.5	26	8	ABX94808	Abx94808 Bovine CN
C 830	12.2	55.5	43	6	AA149898	Rat pro-o	C 903	12	54.5	26	8	ABX94807	Abx94807 Bovine CN
C 831	12.2	55.5	45	8	ABZ82297	RM1 anti	C 904	12	54.5	31	4	AA129905	AA129905 Human gln
C 832	12.2	55.5	45	12	AD017918	Primer of	C 905	12	54.5	31	4	AA129905	AA129905 Human gln
C 833	12.2	55.5	51	3	AAAT6446	Human elo	C 906	12	54.5	31	10	ABZ83571	ABZ83571 Toxiciolog
C 834	12.2	55.5	51	3	AAAT6446	Human elo	C 907	12	54.5	31	10	ABZ83571	ABZ83571 Toxiciolog
C 835	12.2	55.5	53	2	AA556113	HIV-1 oii	C 908	12	54.5	32	12	ADH41330	ADH41330 Human ova
C 836	12.2	55.5	60	2	AA7B5649	Canine im	C 909	12	54.5	32	12	ADH38958	ADH38958 Glucose-6
C 837	12.2	55.5	60	2	AA556112	HIV-1 oii	C 910	12	54.5	33	2	AA738956	AA738956 Mouse alp
C 838	12.2	55.5	60	6	ABN41164	Human spl	C 911	12	54.5	34	4	AA505358	AA505358 Mouse alp
C 839	12.2	55.5	60	6	ABN45031	Human spl	C 912	12	54.5	39	2	AA588029	AA588029 Ku protei
C 840	12.2	55.5	60	6	ABN45345	Human spl	C 913	12	54.5	45	8	ABZ34125	ABZ34125 Human pig
C 841	12.2	55.5	60	6	ABN39000	Human spl	C 914	12	54.5	50	6	ABZ04078	ABZ04078 Human leu
C 842	12.2	55.5	60	6	ABN45890	Human spl	C 915	12	54.5	51	4	AA176028	AA176028 Human gll
C 843	12.2	55.5	60	12	AD167089	Codon opt	C 916	12	54.5	53	4	AAH22829	AAH22829 Human il-
C 844	12.2	55.5	65	6	ABN57263	Mouse spl	C 917	12	54.5	53	5	AA507657	AA507657 Human il-
C 845	12.2	55.5	65	6	ABN30655	Rat splic	C 918	12	54.5	53	6	ABK96190	ABK96190 Interleuk
C 846	12.2	55.5	65	6	ABN30655	Mouse spl	C 919	12	54.5	53	6	AA037565	AA037565 Human il-
C 847	12.2	55.5	65	6	ABN30793	Rat splic	C 920	12	54.5	53	12	ADJ83311	ADJ83311 PCR prime
C 848	12.2	55.5	65	6	ABN57672	Mouse spl	C 921	12	54.5	53	3	AACT1058	AACT1058 Human bec
C 849	12.2	55.5	75	12	ADP85350	Ligand id	C 922	12	54.5	58	10	AAAD64549	AAAD64549 CERE-F pr
C 850	12.2	55.5	79	12	ADP85180	Ligand id	C 923	12	54.5	58	10	AAAD64550	AAAD64550 CERE-R pr
C 851	12.2	55.5	87	12	AA585382	WHHL rabb	C 924	12	54.5	60	6	ABN35448	ABN35448 Human spl
C 852	12.2	55.5	87	12	AA585382	WHHL rabb	C 925	12	54.5	60	6	ABN35448	ABN35448 Human spl
C 853	12.2	55.5	93	2	AA081905	Interfero	C 926	12	54.5	60	6	ABN44434	ABN44434 Human spl
C 854	12.2	55.5	93	2	AA081905	Interfero	C 927	12	54.5	60	6	ABN46808	ABN46808 Human spl
C 855	12.2	55.5	97	2	AA080992	HIV prote	C 928	12	54.5	60	6	ABN45334	ABN45334 Human spl
C 856	12.2	55.5	97	2	AA080992	HIV prote	C 929	12	54.5	60	6	ABN42520	ABN42520 Human spl
C 857	12.2	55.5	97	2	AA080992	HIV prote	C 930	12	54.5	60	6	ABN32806	ABN32806 Human spl
C 858	12.2	55.5	98	2	AA081900	Interfero	C 931	12	54.5	60	10	AAAD64555	AAAD64555 CERE1stc-F
C 859	12.2	55.5	98	2	AA081915	Interfero	C 932	12	54.5	60	10	AAAD64558	AAAD64558 CERE2nd-R
C 860	12.2	55.5	98	2	AA081928	Interfero	C 933	12	54.5	60	10	AAAD64557	AAAD64557 CERE2nd-F
C 861	12.2	55.5	98	2	AA081901	Interfero	C 934	12	54.5	60	12	ADL67116	ADL67116 Codon opt
C 862	12.2	55.5	98	2	AA081899	Interfero	C 935	12	54.5	60	12	ADML3276	ADML3276 Anti-HIV
C 863	12.2	55.5	98	2	AA081661	bRGF bind	C 936	12	54.5	60	12	ADML3278	ADML3278 Anti-HIV
C 864	12.2	55.5	98	2	AA081642	bRGF bind	C 937	12	54.5	60	12	ADML3275	ADML3275 Anti-HIV
C 865	12.2	55.5	98	2	AA081660	bRGF bind	C 938	12	54.5	60	12	ADML3277	ADML3277 Anti-HIV
C 866	12.2	55.5	100	8	ACD75538	E. coli K	C 939	12	54.5	64	10	AAAD64593	AAAD64593 AT12/cons
C 867	12.2	55.5	100	8	ACD79877	E. coli K	C 940	12	54.5	65	6	ABZ26370	ABZ26370 Candida g
C 868	12.2	55.5	100	8	ACD81524	E. coli K	C 941	12	54.5	65	6	ABZ26370	ABZ26370 Candida e
C 869	12.2	54.5	20	8	ABZ73425	Chimeric	C 942	12	54.5	65	6	ABN51334	ABN51334 Mouse spl
C 870	12	54.5	20	8	ABZ73425	Chimeric	C 943	12	54.5	65	6	ABN29352	ABN29352 Rat splic
C 871	12	54.5	20	12	AD048818	Human cis	C 944	12	54.5	65	6	ABN51170	ABN51170 Mouse spl
C 872	12	54.5	21	6	ABT04918	Human G p	C 945	12	54.5	66	3	AAZ86972	AAZ86972 Retinobla
C 873	12	54.5	21	12	ADP48082	Human MRC	C 946	12	54.5	73	2	AA771352	AA771352 Red blood
C 874	12	54.5	22	2	AA073532	Alpha-add	C 947	12	54.5	74	2	AA771352	AA771352 Red blood
C 875	12	54.5	22	2	AA799471	Human ST	C 948	12	54.5	77	2	AA784608	AA784608 HIV-1 nuc
C 876	12	54.5	22	2	AA799463	Human ST	C 949	12	54.5	77	2	AA779104	AA779104 RNA ligan
C 877	12	54.5	22	2	AA799463	Human ST	C 950	12	54.5	79	3	AA779104	AA779104 RNA ligan
C 878	12	54.5	22	2	AA799463	Human ST	C 951	12	54.5	80	12	ADN96183	ADN96183 Human bec
C 879	12	54.5	24	6	ABZ56830	Human mac	C 952	12	54.5	81	9	ADN96183	ADN96183 Rat antiis
C 880	12	54.5	24	6	ABZ56830	Human mac	C 953	12	54.5	81	10	ADN96183	ADN96183 Rat antiis
C 881	12	54.5	24	6	ABZ56830	Human mac	C 954	12	54.5	86	4	AA125006	AA125006 Probe #14
C 882	12	54.5	24	6	ABZ56830	Human mac	C 955	12	54.5	86	4	AA125006	AA125006 Probe #14
C 883	12	54.5	24	6	ABZ56830	Human mac	C 956	12	54.5	86	4	AA125006	AA125006 Probe #14
C 884	12	54.5	24	6	ABZ56830	Human mac	C 957	12	54.5	86	4	AA125006	AA125006 Probe #14
C 885	12	54.5	24	6	ABZ56830	Human mac	C 958	12	54.5	86	4	AA125006	AA125006 Probe #14
C 886	12	54.5	25	2	AA76010	Rice cyan	C 959	12	54.5	86	4	AA125006	AA125006 Probe #14
C 887	12	54.5	25	2	AA76010	Rice cyan	C 960	12	54.5	86	4	AA125006	AA125006 Probe #14
C 888	12	54.5	25	2	AA76010	Rice cyan	C 961	12	54.5	86	4	AA125006	AA125006 Probe #14
C 889	12	54.5	25	2	AA76010	Rice cyan	C 962	12	54.5	86	4	AA125006	AA125006 Probe #14
C 890	12	54.5	25	2	AA76010	Rice cyan	C 963	12	54.5	86	4	AA125006	AA125006 Probe #14
C 891	12	54.5	25	2	AA76010	Rice cyan	C 964	12	54.5	86	4	AA125006	AA125006 Probe #14
C 892	12	54.5	25	2	AA76010	Rice cyan	C 965	12	54.5	86	4	AA125006	AA125006 Probe #14
C 893	12	54.5	25	2	AA76010	Rice cyan	C 966	12	54.5	86	4	AA125006	AA125006 Probe #14
C 894	12	54.5	25	2	AA76010	Rice cyan	C 967	12	54.5	86	4	AA125006	AA125006 Probe #14
C 895	12	54.5	25	2	AA76010	Rice cyan	C 968	12	54.5	86	4	AA125006	AA125006 Probe #14
C 896	12	54.5	25	2	AA76010	Rice cyan	C 969	12	54.5	86	4	AA125006	AA125006 Probe #14
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C 999 11.8 53.6 25 9 ACK03855
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## ALIGNMENTS

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RESULT 1
AAV32079
ID AAV32079 standard; DNA; 22 BP.
XX
AC AAV32079;
XX
DT 09-SEP-1998 (first entry)
XX
DE Nucleotide sequence of DY1018.
XX
KM DY1018; beta-gal; ISS-PN/IMM; antigen; immune response; antibody;
KM immunisation; anaphylaxis; IGE; retinopathies; ss.
XX
OS Synthetic.
XX
FH Key Location/Qualifiers
FT modified_base 1..22
FT /*tag= a
FT /note= "phosphochiote backbone"
XX
XX WO9816247-A1.
XX
XX 23-APR-1998.
XX
XX 09-OCT-1997; 97WO-US019004.
XX
XX 11-OCT-1996; 96US-0028118P.
XX
XX (REGC ) UNIV CALIFORNIA.
XX
XX Carson DA, Raz E, Roman M;
XX
XX WPI; 1998-261028/23.
XX
XX New immunomodulatory compositions - comprising an antigen conjugated to a
XX polynucleotide that contains an immunostimulatory sequence.
XX
XX Example 1; Page 36; 69pp; English.
PS
```

```
XX This is the nucleotide sequence of DY1018, which is conjugated to beta-
CC gal to form ISS-PN/IMM, comprising an immunomodulatory molecule (IMM) ,
CC which comprises an antigen conjugated to a polynucleotide (PN) that
CC contains at least one immunostimulatory nucleotide sequence (ISS) . The
CC conjugate synergistically boost the magnitude of the host immune response
CC against an antigen to a level greater than the host immune response to
CC either the IMM, antigen or ISS-PN alone. These responses to ISS-PN/IMM
CC conjugates are particularly acute during the important early phase of the
CC host immune response to an antigen. The ISS-PN/IMM conjugates boost both
CC humoral (antibody) and cellular (Th1 type) immune responses of the host .
CC Thus, use of the method to boost the immune responsiveness of a host to
CC subsequent challenge by a sensitising antigen without immunisation avoids
CC the risk of Th2-mediated, immunisation-induced anaphylaxis by suppressing
CC IgE production in response to the antigen challenge. The conjugates can
CC also be used to combat pathogenic infection and to stimulate therapeutic
CC angiogenesis to treat conditions in which localised blood flow plays a
CC significant etiological role, e.g. retinopathies
SQ Sequence 22 BP; 6 A; 3 C; 7 G; 6 T; 0 U; 0 Other;
Query Match 100.0%; Score 22; DB 2; Length 22;
Best Local Similarity 100.0%; Pred. No. 0.21;
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
QY 1 TGACTGTGAACGTCGAGATGA 22
1 |||||
DB 1 TGACTGTGAACGTCGAGATGA 22
1 |||||
RESULT 2
AAV80097
ID AAV80097 standard; DNA; 22 BP.
XX
AC AAV80097;
XX
DT 12-MAR-1999 (first entry)
XX
DE Immunomodulatory oligo comprising an ISS sequence.
XX
DE Immunomodulatory; immunostimulatory; octanucleotide; immune regulation;
KM ISS: cancer; allergy; asthma; hepatitis B infection; papillomavirus;
KM human immunodeficiency virus; influenza; herpes; M. tuberculosis; ss;
KM B. pertussis; malaria; plasmodia; leishmania; trypanosoma; Schistosoma.
XX
OS Synthetic.
XX
PN WO9855495-A2.
XX
XX 10-DEC-1998.
XX
XX 05-JUN-1998; 98WO-US011578.
XX
XX 06-JUN-1997; 97US-0048793P.
XX
XX (DYNA-) DYNAVAX TECHNOLOGIES CORP.
XX
XX Schwartz D, Roman M, Dina D;
XX
XX WPI; 1999-059898/05.
XX
XX Immunostimulatory oligonucleotides regulate the immune system - and
XX contain an immune-stimulating octanucleotide sequence; for treating
XX cancer, allergic and infectious diseases.
XX
XX Claim 5; Page 29; 63pp; English.
XX
XX The invention relates to immunomodulatory oligonucleotides that comprise
XX at least 1 immunostimulatory octanucleotide sequence (ISS) where the ISS
XX sequences are selected from the group consisting of AAGCTTCC, AAGCTTCG,
XX GAGCTTCC, and GAGCTTCG. The immunomodulatory sequences are used to treat
XX patients needing immune regulation, such as those suffering from cancer,
XX an allergic disease and asthma. They are also used to prevent infectious
CC
```

CC diseases such as influenza, herpes, hepatitis B, human immunodeficiency  
 CC and papillomavirus, Hemophilus influenza, Mycobacterium tuberculosis and  
 CC Borrelia pertussis, malarial plasmodia, Leishmania, Trypanosoma and  
 CC Schistosoma. The immunomodulatory sequences are used to screen for human  
 CC immunostimulatory activity by incubating macrophage cells and the  
 CC oligonucleotide; and determining the relative amount of Th1-biased  
 CC cytokines in the supernatant. Sequences AAV80096 to AAV80103 represent  
 CC specific claimed examples of such immunomodulatory oligonucleotides  
 SQ Sequence 22 BP; 6 A; 3 C; 7 G; 6 T; 0 U; 0 Other;

Query Match 100.0%; Score 22; DB 2; Length 22;  
 Best Local Similarity 100.0%; Pred. No. 0.21;  
 Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 TGACTGTGACGTTGAGATGA 22  
 Db 1 TGACTGTGACGTTGAGATGA 22

### RESULT 3

AAV80103 standard; DNA; 22 BP.

AAV80103;  
 12-MAR-1999 (first entry)

Immunomodulatory oligo comprising an ISS sequence.

Immunomodulatory; immunostimulatory; octanucleotide; immune regulation;  
 KW ISS: cancer; allergy; asthma; hepatitis B infection; papillomavirus;  
 KW human immunodeficiency virus; influenza; herpes; M. tuberculosis; ss;  
 KW B. pertussis; malaria; plasmodia; Leishmania; Trypanosoma; Schistosoma.

Synthetic.

Key Location/Qualifiers  
 modified\_base 11  
 /tag= a  
 /note= "5-bromocytosine"

WO9855495-A2.

10-DEC-1998.

05-JUN-1998; 98WO-US011578.

06-JUN-1997; 97US-0048793P.

(DYNA-) DYNAVAX TECHNOLOGIES CORP.

Schwartz D, Roman M, Dina D;

WPI; 1999-059898/05.

Immunostimulatory oligonucleotides regulate the immune system - and  
 PT contain an immune-stimulating octanucleotide sequence; for treating  
 PT cancer, allergic and infectious diseases.

Claim 24; Page 30; 63pp; English.

The invention relates to immunomodulatory oligonucleotides that comprise  
 CC at least 1 immunostimulatory octanucleotide sequence (ISS) where the ISS  
 CC sequences are selected from the group consisting of AACGTTCC, AACGTTCC,  
 CC GACGTTCC, and GACGTTCC. The immunomodulatory sequences are used to treat  
 CC patients needing immune regulation, such as those suffering from cancer,  
 CC an allergic disease and asthma. They are also used to prevent infectious  
 CC diseases such as influenza, herpes, hepatitis B, human immunodeficiency  
 CC and papillomavirus, Hemophilus influenza, Mycobacterium tuberculosis and  
 CC Borrelia pertussis, malarial plasmodia, Leishmania, Trypanosoma and  
 CC Schistosoma. The immunomodulatory sequences are used to screen for human  
 CC immunostimulatory activity by incubating macrophage cells and the

CC oligonucleotide; and determining the relative amount of Th1-biased  
 CC cytokines in the supernatant. Sequences AAV80096 to AAV80103 represent  
 CC specific claimed examples of such immunomodulatory oligonucleotides  
 SQ Sequence 22 BP; 6 A; 3 C; 7 G; 6 T; 0 U; 0 Other;

Query Match 100.0%; Score 22; DB 2; Length 22;  
 Best Local Similarity 100.0%; Pred. No. 0.21;  
 Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 TGACTGTGACGTTGAGATGA 22  
 Db 1 TGACTGTGACGTTGAGATGA 22

### RESULT 4

AAV80102 standard; DNA; 22 BP.

AAV80102;

12-MAR-1999 (first entry)

Immunomodulatory oligo comprising an ISS sequence.

Immunomodulatory; immunostimulatory; octanucleotide; immune regulation;  
 KW ISS: cancer; allergy; asthma; hepatitis B infection; papillomavirus;  
 KW human immunodeficiency virus; influenza; herpes; M. tuberculosis; ss;  
 KW B. pertussis; malaria; plasmodia; Leishmania; Trypanosoma; Schistosoma.

Synthetic.

Key Location/Qualifiers  
 modified\_base 11  
 /tag= a  
 /note= "5-bromocytosine"

WO9855495-A2.

10-DEC-1998.

05-JUN-1998; 98WO-US011578.

06-JUN-1997; 97US-0048793P.

(DYNA-) DYNAVAX TECHNOLOGIES CORP.

Schwartz D, Roman M, Dina D;

WPI; 1999-059898/05.

Immunostimulatory oligonucleotides regulate the immune system - and  
 PT contain an immune-stimulating octanucleotide sequence; for treating  
 PT cancer, allergic and infectious diseases.

Claim 23; Page 30; 63pp; English.

The invention relates to immunomodulatory oligonucleotides that comprise  
 CC at least 1 immunostimulatory octanucleotide sequence (ISS) where the ISS  
 CC sequences are selected from the group consisting of AACGTTCC, AACGTTCC,  
 CC GACGTTCC, and GACGTTCC. The immunomodulatory sequences are used to treat  
 CC patients needing immune regulation, such as those suffering from cancer,  
 CC an allergic disease and asthma. They are also used to prevent infectious  
 CC diseases such as influenza, herpes, hepatitis B, human immunodeficiency  
 CC and papillomavirus, Hemophilus influenza, Mycobacterium tuberculosis and  
 CC Borrelia pertussis, malarial plasmodia, Leishmania, Trypanosoma and  
 CC Schistosoma. The immunomodulatory sequences are used to screen for human  
 CC immunostimulatory activity by incubating macrophage cells and the  
 CC oligonucleotide; and determining the relative amount of Th1-biased  
 CC cytokines in the supernatant. Sequences AAV80096 to AAV80103 represent  
 CC specific claimed examples of such immunomodulatory oligonucleotides  
 SQ Sequence 22 BP; 6 A; 3 C; 7 G; 6 T; 0 U; 0 Other;





```
RESULT 7
AAA38072
ID AAA38072 standard; DNA; 22 BP.
XX
XX AAA38072;
XX
XX 24-AUG-2000 (first entry)
XX
XX Immunostimulatory sequence (ISS) #7.
XX
XX Immunostimulatory sequence; ISS; immunomodulator; glycoprotein 120;
XX gp120; human immunodeficiency virus; HIV; immune response; infection;
XX development; ss.
XX
XX Synthetic.
XX
XX Key Location/Qualifiers
XX modified_base 11
XX /*tag= a
XX /mod_base= OTHER
XX /note= "5-Bromocytosine"
XX modified_base 15
XX /*tag= b
XX /mod_base= OTHER
XX /note= "5-Bromocytosine"
XX
XX WO200021556-A1.
XX
XX 20-APR-2000.
XX
XX 08-OCT-1999; 99WO-US023677.
XX
XX 09-OCT-1998; 98US-0103733P.
XX PR 07-OCT-1999; 99US-00415186.
XX
XX (DYNA-) DYNAVAX TECHNOLOGIES CORP.
XX
XX Tighe H, Raz E, Schwartz D, Takabayashi K;
XX WPI; 2000-317846/27.
XX
XX Anti-HIV composition comprises immunostimulatory polynucleotides and HIV
XX glycoprotein gp120 useful for modulating, stimulating an immune response
XX against HIV in an HIV infected individual.
XX
XX Disclosure; Page 17; 65pp; English.
XX
XX The present invention relates to an immunostimulatory composition
XX comprising a human immunodeficiency virus (HIV) antigen, and an
XX immunomodulatory polynucleotide comprising an immunostimulatory sequence
XX (ISS). This sequence represents an ISS that can be used in the
XX composition. An immunostimulatory composition which comprises a gp120
XX conjugated to an immunomodulatory polynucleotide, or is proximately
XX associated to it and not conjugated, is used for modulating or
XX stimulating a specific immune response against gp120 in an individual by
XX producing anti-gp120 antibodies or gp120 specific cytotoxic T cells. It
XX is also used for suppressing or delaying development of HIV infection in
XX an individual infected with HIV or an individual at risk of infection
XX with HIV, respectively. It is also used for treating an individual
XX infected with HIV in need of immune modulation
XX
XX Sequence 22 BP; 6 A; 3 C; 7 G; 6 T; 0 U; 0 Other;
SQ
Query Match 100.0%; Score 22; DB 3; Length 22;
Best Local Similarity 100.0%; Pred. No. 0.21;
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
OY 1 TGACTGTGAACGTTGAGATGA 22
1 |||||||||||||||||||
Db 1 TGACTGTGAACGTTGAGATGA 22
1 |||||||||||||||||||
XX
XX RESULT 8
```

```
AAA38071
ID AAA38071 standard; DNA; 22 BP.
XX
XX AAA38071;
XX
XX 24-AUG-2000 (first entry)
XX
XX Immunostimulatory sequence (ISS) #7.
XX
XX Immunostimulatory sequence; ISS; immunomodulator; glycoprotein 120;
XX gp120; human immunodeficiency virus; HIV; immune response; infection;
XX development; ss.
XX
XX Synthetic.
XX
XX Key Location/Qualifiers
XX modified_base 11
XX /*tag= a
XX /mod_base= OTHER
XX /note= "5-Bromocytosine"
XX
XX WO200021556-A1.
XX
XX 20-APR-2000.
XX
XX 08-OCT-1999; 99WO-US023677.
XX
XX 09-OCT-1998; 98US-0103733P.
XX PR 07-OCT-1999; 99US-00415186.
XX
XX (DYNA-) DYNAVAX TECHNOLOGIES CORP.
XX
XX Tighe H, Raz E, Schwartz D, Takabayashi K;
XX WPI; 2000-317846/27.
XX
XX Anti-HIV composition comprises immunostimulatory polynucleotides and HIV
XX glycoprotein gp120 useful for modulating, stimulating an immune response
XX against HIV in an HIV infected individual.
XX
XX Disclosure; Page 17; 65pp; English.
XX
XX The present invention relates to an immunostimulatory composition
XX comprising a human immunodeficiency virus (HIV) antigen, and an
XX immunomodulatory polynucleotide comprising an immunostimulatory sequence
XX (ISS). This sequence represents an ISS that can be used in the
XX composition. An immunostimulatory composition which comprises a gp120
XX conjugated to an immunomodulatory polynucleotide, or is proximately
XX associated to it and not conjugated, is used for modulating or
XX stimulating a specific immune response against gp120 in an individual by
XX producing anti-gp120 antibodies or gp120 specific cytotoxic T cells. It
XX is also used for suppressing or delaying development of HIV infection in
XX an individual infected with HIV or an individual at risk of infection
XX with HIV, respectively. It is also used for treating an individual
XX infected with HIV in need of immune modulation
XX
XX Sequence 22 BP; 6 A; 3 C; 7 G; 6 T; 0 U; 0 Other;
SQ
Query Match 100.0%; Score 22; DB 3; Length 22;
Best Local Similarity 100.0%; Pred. No. 0.21;
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
OY 1 TGACTGTGAACGTTGAGATGA 22
1 |||||||||||||||||||
Db 1 TGACTGTGAACGTTGAGATGA 22
1 |||||||||||||||||||
XX
XX RESULT 9
AAA38065
ID AAA38065 standard; DNA; 22 BP.
XX
XX AAA38065;
XX
```

DT 24-AUG-2000 (first entry)  
XX Immunostimulatory sequence (ISS) #1.  
XX  
XX Immunostimulatory sequence; ISS; immunomodulator; glycoprotein 120;  
KM gp120; human immunodeficiency virus; HIV; immune response; infection;  
KM development; ss.  
OS Synthetic.  
XX  
XX WO200021556-A1.  
XX  
XX  
XX 20-APR-2000.  
PD  
XX  
XX 08-OCT-1999; 99WO-US023677.  
PF  
XX  
XX 09-OCT-1998; 98US-0103733P.  
PR  
XX 07-OCT-1999; 99US-00415186.  
PR  
XX  
XX (DYNA-) DYNAVAX TECHNOLOGIES CORP.  
PA  
XX  
XX Tighe H, Raz E, Schwartz D, Takabayashi K;  
PI  
XX WPI; 2000-317646/27.  
DR  
XX  
XX Anti-HIV composition comprises immunostimulatory polynucleotides and HIV  
PT glycoprotein gp120 useful for modulating, stimulating an immune response  
PT against HIV in an HIV infected individual.  
XX  
XX Claim 3; Page 16; 65pp; English.  
PS  
XX  
XX The present invention relates to an immunostimulatory composition  
CC comprising a human immunodeficiency virus (HIV) antigen, and an  
CC immunomodulating polynucleotide comprising an immunostimulatory sequence  
CC (ISS). This sequence represents an ISS that can be used in the  
CC composition. An immunostimulatory composition which comprises a gp120  
CC conjugated to an immunomodulatory polynucleotide, or is proximately  
CC associated to it and not conjugated, is used for modulating or  
CC stimulating a specific immune response against gp120 in an individual by  
CC producing anti-gp120 antibodies or gp120 specific cytotoxic T cells. It  
CC is also used for suppressing or delaying development of HIV infection in  
CC an individual infected with HIV or an individual at risk of infection  
CC with HIV, respectively. It is also used for treating an individual  
CC infected with HIV in need of immune modulation  
CC  
SQ Sequence 22 BP; 6 A; 3 C; 7 G; 6 T; 0 U; 0 Other;  
XX  
XX  
XX Query Match 100.0%; Score 22; DB 3; Length 22;  
Best Local Similarity 100.0%; Pred. No. 0.21;  
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;  
QY  
1 TGAAGTGAACGTTGAGATGA 22  
1 TGAAGTGAACGTTGAGATGA 22  
DB  
1 TGAAGTGAACGTTGAGATGA 22  
RESULT 10  
AAA90458  
ID AAA90458 standard; DNA; 22 BP.  
XX  
XX  
XX AAA90458;  
AC  
XX  
XX 10-JAN-2001 (first entry)  
XX  
XX Cpg adjuvant oligonucleotide, SEQ ID NO:19.  
XX  
XX  
XX Cpg oligonucleotide; Cpg motif; microdroplet emulsion;  
KM microemulsion; adsorbent microparticle; vaccine; Th1 immune response;  
KM viral infection; bacterial infection; parasitic infection; HCV; HBV;  
KM hepatitis C virus; hepatitis B virus; herpes simplex virus; HSV; HIV;  
KM human immunodeficiency virus; cytomegalovirus; CMV; influenza virus;  
KM rabies virus; cholera; diphtheria; tetanus; pertussis;  
KM Helicobacter pylori; Haemophilus influenzae; malaria; ss.

XX  
XX  
XX Synthetic.  
OS  
XX  
XX WO200050006-A2.  
XX  
XX  
XX 31-AUG-2000.  
PD  
XX  
XX 09-FEB-2000; 2000WO-US003331.  
PF  
XX  
XX 26-FEB-1999; 99US-0121858P.  
PR  
XX 29-JUL-1999; 99US-0146391P.  
PR  
XX 28-OCT-1999; 99US-0161997P.  
XX  
XX (CHIR) CHIRON CORP.  
PA  
XX  
XX O'hagan D, Olt GS, Donnelly J, Kazaz J, Ugazoli M, Singh M;  
PI Barackman J;  
XX  
XX WPI; 2000-587123/55.  
DR  
XX  
XX Microemulsion having an adsorbent surface comprising a microdroplet  
PT emulsion consisting of a metabolizable oil and an emulsifying agent which  
PT is a detergent, useful as a vaccine to treat bacterial, viral, and  
PT parasitic infection.  
XX  
XX Claim 17; Page 40; 95pp; English.  
PS  
XX  
XX The invention relates to a microdroplet emulsion (microemulsion) with an  
CC adsorbent surface, and which comprises a metabolizable oil and an  
CC emulsifying agent (a detergent). It also relates to a composition  
CC comprising the microemulsion and a microparticle with an adsorbent  
CC surface, where the microparticle comprises a polymer selected from a  
CC poly(alpha-hydroxy acid), a polyhydroxy butyric acid, a polycaprolactone,  
CC a polythioether, a polyamide, and a polycyanoacrylate, and a second  
CC detergent. The surface of the microparticles efficiently adsorb  
CC biologically active macromolecules such as DNA, polypeptides, antigens,  
CC hormones, pharmaceuticals, enzymes, mediators of transcription or  
CC translation, metabolic intermediates and adjuvants. Additionally, a  
CC second biologically active molecule may be encapsulated within the  
CC microparticle. The microemulsion can be used in methods of immunising a  
CC host animal, particularly a human, against a viral, bacterial or  
CC parasitic infection, and in methods of increasing a Th1 immune response.  
CC The microemulsions (having the appropriate antigens adsorbed) may be  
CC particularly used as vaccines for hepatitis C virus (HCV), hepatitis B  
CC virus (HBV), herpes simplex virus (HSV), human immunodeficiency virus  
CC (HIV), cytomegalovirus (CMV), influenza virus, and rabies virus; the  
CC bacteria which cause cholera, diphtheria, tetanus and pertussis;  
CC Helicobacter pylori and Haemophilus influenzae; and malaria-causing  
CC parasites. Sequences AAA90447-A90467 represent Th1 lymphocyte stimulating  
CC oligonucleotides containing at least one Cpg motif which are claimed for  
CC use as adjuvants in the compositions of the invention  
CC  
SQ Sequence 22 BP; 6 A; 3 C; 7 G; 6 T; 0 U; 0 Other;  
XX  
XX  
XX Query Match 100.0%; Score 22; DB 3; Length 22;  
Best Local Similarity 100.0%; Pred. No. 0.21;  
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;  
QY  
1 TGAAGTGAACGTTGAGATGA 22  
1 TGAAGTGAACGTTGAGATGA 22  
DB  
1 TGAAGTGAACGTTGAGATGA 22  
RESULT 11  
AAA96253  
ID AAA96253 standard; DNA; 22 BP.  
XX  
XX  
XX AAA96253;  
AC  
XX  
XX 08-FEB-2001 (first entry)  
XX  
XX Sequence of a stabilised oligonucleotide with antitumour activity.  
DE  
XX

KW Antitumour; immunostimulatory oligonucleotide; tumour; anaplasia;  
 KW glioblastoma; medulloblastoma; neuroblastoma; melanoma; carcinoma; ss.  
 OS Synthetic.  
 XX WO200056342-A2.  
 PN 28-SEP-2000.  
 PD 17-MAR-2000; 2000WO-FR000676.  
 PF 19-MAR-1999; 99FR-00003433.  
 PR (ASSI-) ASSISTANCE PUBLIQUE HOPITAUX PARIS.  
 PA (INRM) INST NAT SANTE & RECH MEDICALE.  
 XX  
 PI Carpenter A;  
 DR WPI; 2000-602192/57.  
 XX  
 PT Use of stabilised oligonucleotides as antitumor agents, particularly  
 PT against nervous system tumors, have optimal activity and are not toxic.  
 XX  
 PS Example 2; Page 16; 57pp; French.  
 CC The present sequence represents a stabilised oligonucleotide which has  
 CC antitumor activity. The oligonucleotide comprises an octamer motif of  
 CC the type 5'-purine-purine-CG-pyrimidine-pyrimidine-X-X-3', where the pair  
 CC X-X is AT, AA, CT or TT. The oligonucleotides are immunostimulatory, and  
 CC are not toxic. They may be adapted for use in animals or humans. The  
 CC stabilised oligonucleotides are used for treating tumors, of any type  
 CC and any degree of anaplasia, particularly human tumors in the peripheral  
 CC or central nervous systems, specifically glioblastomas, medulloblastomas,  
 CC neuroblastomas, melanomas or carcinomas  
 SQ Sequence 22 BP; 6 A; 3 C; 7 G; 6 T; 0 U; 0 Other;  
 Query Match 100.0%; Score 22; DB 3; Length 22;  
 Best Local Similarity 100.0%; Pred. No. 0.21;  
 Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;  
 QY 1 TGACTGTGAACGTTGAGATGA 22  
 DB 1 TGACTGTGAACGTTGAGATGA 22  
 RESULT 12  
 AA255876 standard; DNA; 22 BP.  
 AC AA255876;  
 XX  
 DT 10-APR-2000 (first entry)  
 XX  
 DE Immunomodulatory oligonucleotide SEQ ID NO: 1.  
 XX  
 KW Immunomodulation; immunostimulatory sequence; adjuvant;  
 KW Th1 immune response; cytotoxic T-cell; cytokine; cancer; allergy; asthma;  
 KW immunoreception; ss.  
 XX  
 OS Mus musculus.  
 OS Synthetic.  
 XX  
 FH Key Location/Qualifiers  
 FT modified\_base 1..22  
 FT /tag= a  
 FT /note= "Phosphorothioate linkages"  
 FT 9..16  
 FT /tag= b  
 FT /note= "Immunostimulatory sequence (ISS)"  
 XX  
 PN WO962923-A2.

PD 09-DEC-1999.  
 XX  
 PE 04-JUN-1999; 99WO-US012538.  
 XX  
 PR 05-JUN-1998; 98US-0088310P.  
 PR 01-JUN-1999; 99US-00324191.  
 XX  
 PA (DYNA-) DYNAVAX TECHNOLOGIES CORP.  
 PI Schwartz D;  
 DR WPI; 2000-105687/09.  
 XX  
 PT Novel immunomodulatory oligonucleotide used to induce a Th1-type immune  
 PT response, e.g. to tumor antigens.  
 XX  
 PS Example 1; Page 35; 54pp; English.  
 CC Sequences AA255876-255877 and AA255880-255886 represent immunomodulatory  
 CC oligonucleotides comprising an immunostimulatory sequence (ISS, e.g.,  
 CC AACGTC, AACGTT, AGCGTC, AGCGCT, AGCGTT, GACGTT, GACGTC, AACGTTCC  
 CC and GACGTTCC). The invention relates to oligonucleotides comprising one  
 CC or more ISSs, where the ISS comprises at least one modified cytosine with  
 CC an electron-withdrawing moiety at position C-5 or C-6 of the base.  
 CC Sequences AA255877 and AA255880-255886 contain ISSs comprising at least  
 CC The immunomodulatory oligonucleotides have an adjuvant-like effect; when  
 CC formulated with an antigen, the oligonucleotides stimulate production of  
 CC Th1-type cytokines, and induce a Th1-type immune response (activation of  
 CC cytotoxic T cells), while simultaneously downregulating the Th2-type  
 CC response. The Th1 response is particularly effective for control of  
 CC viruses and intracellular parasites. The immunomodulatory  
 CC oligonucleotides are used, particularly when formulated with an antigen  
 CC or a facilitator, for modulating immune responses. Such compositions may  
 CC be used in tumour therapy, in treatment of allergy (including asthma),  
 CC for inducing a vigorous cellular response (against a virus, bacterium,  
 CC fungus or protozoan), and also in contraceptive vaccines based on sperm  
 CC antigens  
 SQ Sequence 22 BP; 6 A; 3 C; 7 G; 6 T; 0 U; 0 Other;  
 Query Match 100.0%; Score 22; DB 3; Length 22;  
 Best Local Similarity 100.0%; Pred. No. 0.21;  
 Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;  
 QY 1 TGACTGTGAACGTTGAGATGA 22  
 DB 1 TGACTGTGAACGTTGAGATGA 22  
 RESULT 13  
 AAC64051  
 ID AAC64051 standard; DNA; 22 BP.  
 AC AAC64051;  
 XX  
 DT 15-FEB-2001 (first entry)  
 XX  
 DE Immunostimulatory CpG phosphorothioate oligodeoxynucleotide.  
 XX  
 KW CpG oligodeoxynucleotide; phosphorothioate; immunostimulatory; ISS ODN;  
 KW enhanced antigen presentation; antigen-presenting cell; APC;  
 KW T-cell activation; tumour cell; tumour antigen; cancer immunotherapy;  
 KW vaccine; ss.  
 XX  
 OS Synthetic.  
 OS  
 PN WO200062787-A1.  
 XX  
 PD 26-OCT-2000.  
 XX  
 PF 11-APR-2000; 2000WO-US009664.  
 XX

PR 15-APR-1999; 99US-00292278.  
XX  
XX (REGC ) UNIV CALIFORNIA.  
XX  
PI Raz E, Martin-Orozco E;  
XX  
XX WPI; 2000-679548/66.  
DR  
XX  
XX Enhancing antigen-presentation capabilities of T-cells for cancer  
PT immunotherapy, by contacting cells with an immunostimulatory  
PT oligonucleotide.  
XX  
XX  
PS Example 1; Page 18; 42pp; English.  
XX  
XX The invention relates to a method of inducing activation of T-cells to  
CC respond to an antigen, comprising contacting antigen-presenting cells  
CC (APC) with an immunostimulatory oligodeoxynucleotide (ISS-ODN). The APCs  
CC thus treated have enhanced antigen presenting capabilities compared to  
CC antigen-activated APCs. APCs with enhanced antigen-presentation  
CC capabilities then present the antigen to T-cells. The method is useful  
CC for cancer immunotherapy. The ISS-ODN is used to enhance the tumour  
CC antigen presenting capacity of tumour cells, thereby inducing T-cell  
CC activation, and is therefore useful for treating tumours. Additionally,  
CC tumour cells treated with an ISS-ODN ex vivo are useful as vaccines. ISS-  
CC ODN treated APCs are induced to take up antigen through upregulation of  
CC Fc-receptor expression, to present antigen through upregulation of major  
CC histocompatibility complex (MHC) Class I and II expression and CD1d  
CC expression, to produce co-stimulatory factors (B7 and CD40), to provide  
CC cell-to-cell adhesion through upregulation of intercellular adhesion  
CC molecule (ICAM) expression, and to increase Th1 stimulatory cytokine  
CC production, all at levels greater than that achieved through contact of  
CC APC with antigen alone. The present sequence represents a  
CC phosphorothioate Cpg ISS-ODN used in the exemplifications of the  
XX invention  
XX  
SQ Sequence 22 BP; 6 A; 3 C; 7 G; 6 T; 0 U; 0 Other;  
Query Match 100.0%; Score 22; DB 3; Length 22;  
Best Local Similarity 100.0%; Pred. No. 0.21;  
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;  
QY 1 TGAAGTGAACGTTGAGATGA 22  
DB 1 TGAAGTGAACGTTGAGATGA 22  
RESULT 14  
AAH20403  
ID AAH20403 standard; DNA; 22 BP.  
XX  
XX AAH20403;  
XX  
DT 03-AUG-2001 (first entry)  
XX  
XX Cpg motif containing oligonucleotide SEQ ID #21.  
XX  
XX Immune system stimulator; Cpg motif; Cpg receptor; Cpg-R; antibacterial;  
KW immune response; vaccine adjuvant; tumour immunotherapy; allergy;  
KW anti-inflammatory; cystic fibrosis; sepsis; heart disease; chlamydia;  
KW inflammatory bowel disease; arthritis; multiple sclerosis; ss.  
XX  
XX unidentified.  
OS  
XX  
XX Key Location/Qualifiers  
FH modified\_base 1..22  
FT /+tag= a  
FT /mod\_base= OTHER  
FT /note= "Phosphorothioate internucleoside linkages"  
XX  
XX WO200132877-A2.  
XX  
XX 10-MAY-2001.  
XX

PF 01-NOV-2000; 2000WO-US041735.  
XX  
XX 02-NOV-1999; 99US-0163157P.  
XX  
XX 24-NOV-1999; 99US-0167389P.  
XX  
XX (CHIR ) CHIRON CORP.  
XX  
XX Mackichan ML;  
PI  
XX  
XX WPI; 2001-343486/36.  
DR  
XX  
XX Novel Cpg receptor and nucleic acid molecule encoding the receptor, for  
PT modulating immune response and for identifying compounds of therapeutic  
PT use which bind and/or modulate the activity of the receptor.  
XX  
XX  
PS Example 1; Page 14; 41pp; English.  
XX  
XX Unmethylated CG dinucleotide sequences are commonly found in bacterial  
CC DNA, and have been found to stimulate the innate immune system. Natural  
CC killer and T cells are activated by exposure to oligonucleotides  
CC containing Cpg motifs. Oligonucleotides containing Cpg motifs can be used  
CC as adjuvants in vaccines. The present invention relates to a Cpg  
CC receptor. The Cpg receptor contains a Toll homology domain (THD). The  
CC Toll receptor family are associated with responses to pathogens. Cpg  
CC oligonucleotides may act as stimulators of various immune responses. The  
CC Cpg receptor or cells expressing the receptor are useful for identifying  
CC a compound which binds to or modulates an activity of the Cpg receptor.  
CC The compounds are useful in e.g. vaccine adjuvants promoting cell-  
CC mediated immune responses, antibacterials, (e.g. protection from listeria  
CC infection), tumour immunotherapy, allergy treatment, (e.g. suppressing  
CC IgE in human PBMC, shifting from Th2 to Th1) and as anti-inflammatory  
CC agents (e.g. for use in cystic fibrosis, sepsis, heart disease,  
CC chlamydia, inflammatory bowel disease, arthritis and multiple sclerosis).  
CC The present sequence represents a Cpg motif containing oligonucleotide  
CC used in examples demonstrating that Cpg oligonucleotides can activate the  
CC MAPK pathways and NF-kappaB  
XX  
XX  
SQ Sequence 22 BP; 6 A; 3 C; 7 G; 6 T; 0 U; 0 Other;  
Query Match 100.0%; Score 22; DB 4; Length 22;  
Best Local Similarity 100.0%; Pred. No. 0.21;  
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;  
QY 1 TGAAGTGAACGTTGAGATGA 22  
DB 1 TGAAGTGAACGTTGAGATGA 22  
RESULT 15  
AAH43338  
ID AAH43338 standard; DNA; 22 BP.  
XX  
XX AAH43338;  
XX  
DT 13-DEC-2001 (first entry)  
XX  
XX Immunomodulatory polynucleotide 1018.  
XX  
XX Immunomodulation; inflammation; gastrointestinal tract;  
KW ulcerative colitis; Crohn's disease; inflammatory bowel disease;  
KW diarrhoea; rectal bleeding; weight loss; colon; weight; lesion; ss.  
XX  
XX Synthetic.  
OS  
XX  
XX WO200162207-A2.  
XX  
XX 30-AUG-2001.  
XX  
XX 22-FEB-2001; 2001WO-US006034.  
XX  
XX 23-FEB-2000; 2000US-0184256P.  
XX  
XX (REGC ) UNIV CALIFORNIA.  
XX

XX Raz E, Rachmilewitz D;  
PI MPI; 2001-565393/63.  
XX  
XX Ameliorating gastrointestinal inflammation e.g. inflammatory bowel  
PT disease involves administering an immunomodulatory nucleic acid.  
XX  
XX Claim 7; Page 28; 58pp; English.  
XX  
CC The sequences given in AAH43338-48 represent immunomodulatory  
CC polynucleotides which may be used to ameliorate inflammation of the  
CC gastrointestinal tract by administering a nucleic acid comprising one of  
CC these sequences. These polynucleotides all comprise an immunomodulatory  
CC nucleotide sequence of 5'-CpG-3' (1). The nucleotides may be used for  
CC ameliorating or reducing gastrointestinal inflammation e.g. chronic or  
CC acute gastrointestinal inflammation, ulcerative colitis, Crohn's disease  
CC caused by inflammatory bowel disease, diarrhoea, rectal bleeding, weight  
CC loss, to reduce colon weight and colon lesions; to reduce a colonic  
CC inflammation. The immunomodulatory polynucleotides treat inflammatory  
CC bowel disease satisfactorily and effectively and have little or no  
CC toxicity even at a high dosage of 5000 micro-g. They also reduce the  
CC risk of colonic cancer by treating ulcerative colitis  
XX  
SQ Sequence 22 BP; 6 A; 3 C; 7 G; 6 T; 0 U; 0 Other;  
Query Match 100.0%; Score 22; DB 4; Length 22;  
Best Local Similarity 100.0%; Pred. No. 0.21;  
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;  
QY 1 TGACTGTGAACGTTGAGATGA 22  
| | | | | | | | | | | | | | | | | | | | | |  
Db 1 TGACTGTGAACGTTGAGATGA 22  
| | | | | | | | | | | | | | | | | | | | | |  
RESULT 16  
AAH73439  
ID AAH73439 standard; DNA; 22 BP.  
XX  
XX AAH73439;  
AC  
XX  
DT 01-OCT-2001 (first entry)  
XX  
XX Immunomodulatory nucleic acid.  
DE  
XX G3PDH gene; immunomodulatory oligonucleotide; infection; mycobacterium;  
XX intracellular pathogen; anti-pathogenic; ss.  
XX  
XX Unidentified.  
OS  
XX WO200155341-A2.  
PN  
XX  
XX 02-AUG-2001.  
PD  
XX  
XX 30-JAN-2001; 2001WO-US003029.  
PF  
XX  
XX 31-JAN-2000; 2000US-0179353P.  
PR  
XX  
XX (REGC ) UNITV CALIFORNIA.  
PA  
XX  
XX Raz E, Kornbluth R, Catanzaro A, Hayashi T, Carson DA;  
PI MPI; 2001-483234/52.  
XX  
XX  
XX Treating infection of intracellular pathogen e.g. Mycobacterium, in a  
PT subject, involves administering immunomodulatory nucleic acid molecule to  
PT inhibit intracellular replication of intracellular pathogen.  
XX  
XX Example; Page 26; 54pp; English.  
XX  
XX The present invention describes a method of treating an infection caused  
CC by an intracellular pathogen, involving administering to the patient an  
CC immunomodulatory nucleic acid and an anti-pathogenic agent. This is

CC particularly useful in the treatment of mycobacterial infections. The  
CC present sequence is an immunomodulatory nucleic acid described in the  
CC exemplification of the invention  
XX  
SQ Sequence 22 BP; 6 A; 3 C; 7 G; 6 T; 0 U; 0 Other;  
Query Match 100.0%; Score 22; DB 4; Length 22;  
Best Local Similarity 100.0%; Pred. No. 0.21;  
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;  
QY 1 TGACTGTGAACGTTGAGATGA 22  
| | | | | | | | | | | | | | | | | | | | | |  
Db 1 TGACTGTGAACGTTGAGATGA 22  
| | | | | | | | | | | | | | | | | | | | | |  
RESULT 17  
AAH75992  
ID AAH75992 standard; DNA; 22 BP.  
XX  
XX AAH75992;  
AC  
XX  
DT 15-NOV-2001 (first entry)  
XX  
XX Immunomodulatory oligonucleotide #1.  
DB  
XX Immunomodulatory; immunostimulatory; Th1-type immune response;  
KW Th2-type immune response; interferon; idiopathic pulmonary fibrosis;  
KW viral infection; phosphorochioate; ss.  
XX  
XX Synthetic.  
OS  
FH Key Location/Qualifiers  
FT modified\_base 1..22  
FT FT /\*tag= a  
FT FT /mod\_base= OTHER  
FT FT /note= "Phosphorochioate oligonucleotide"  
XX  
PN WO200168143-A2.  
XX  
XX 20-SEP-2001.  
PD  
XX  
XX 12-MAR-2001; 2001WO-US007843.  
PF  
XX  
XX 10-MAR-2000; 2000US-0188557P.  
PR  
XX 09-MAR-2001; 2001US-00802376.  
XX  
XX (DYNA-) DYNAVAX TECHNOLOGIES CORP.  
PA  
XX  
XX Van Nest G, Tuck S;  
PI MPI; 2001-582389/65.  
XX  
XX  
XX Immunomodulatory polynucleotide/microcarrier complexes comprise an  
PT immunostimulatory sequence containing polynucleotide linked to a  
PT nonbiodegradable microcarrier.  
XX  
XX  
XX Claim 11; Page 49; 61pp; English.  
XX  
XX The present invention relates to immunomodulatory polynucleotide/  
CC microcarrier complexes. The complexes comprise an immunostimulatory  
CC sequence (ISS), e.g. the present sequence, linked to a nonbiodegradable  
CC microcarrier provided that if the microcarrier is gold, latex or magnetic  
CC then the linkage is not biotin/avidin. The complex is useful for  
CC modulating an immune response (especially stimulating a Th1-type response  
CC or suppressing a Th2-type response), increasing interferon-gamma  
CC (especially in a patient suffering from idiopathic pulmonary fibrosis),  
CC increasing interferon-alpha (especially in patients suffering from viral  
CC infection) and reducing levels of IgE  
XX  
SQ Sequence 22 BP; 6 A; 3 C; 7 G; 6 T; 0 U; 0 Other;  
Query Match 100.0%; Score 22; DB 4; Length 22;  
Best Local Similarity 100.0%; Pred. No. 0.21;

Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 1 TGAAGTGAACGTCGAGATGA 22  
 XX ||||||||||||||||||  
 XX  
 Db 1 TGAAGTGAACGTCGAGATGA 22

RESULT 18  
 AAF77040  
 ID AAF77040 standard; DNA; 22 BP.  
 XX  
 AC AAF77040;  
 XX  
 DT 15-MAY-2001 (first entry)  
 XX  
 DE Immunomodulatory DNA.  
 XX  
 KW Modulate; immune; antigen; immunostimulatory; ds.  
 XX  
 OS Synthetic.  
 XX  
 PN WO200112223-A2.  
 XX  
 PD 22-FEB-2001.  
 XX  
 PF 18-AUG-2000; 2000WO-US022835.  
 XX  
 PR 19-AUG-1999; 99US-0149768P.  
 XX  
 PA (DYNA-) DYNAVAX TECHNOLOGIES CORP.  
 XX  
 PI Van Nest G;  
 XX  
 DR WPI; 2001-211136/21.  
 XX  
 PT Modulating immune response to a second antigen in humans involves  
 PT administering an immunostimulatory polynucleotide comprising an  
 PT immunostimulatory sequence and a first antigen.  
 XX  
 PS Claim 31; Page 15; 63pp; English.  
 XX  
 CC The present invention relates to modulating an immune response to a  
 CC second antigen in an individual, involving administering to the  
 CC individual an immunomodulatory polynucleotide comprising an  
 CC immunostimulatory sequence (ISS) and a first antigen  
 XX  
 SQ Sequence 22 BP; 6 A; 3 C; 7 G; 6 T; 0 U; 0 Other;

Query Match 100.0%; Score 22; DB 4; Length 22;  
 Best Local Similarity 100.0%; Pred. No. 0.21;  
 Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 1 TGAAGTGAACGTCGAGATGA 22  
 XX ||||||||||||||||||  
 XX  
 Db 1 TGAAGTGAACGTCGAGATGA 22

RESULT 19  
 AAF29800  
 ID AAF29800 standard; DNA; 22 BP.  
 XX  
 AC AAF29800;  
 XX  
 DT 12-APR-2001 (first entry)  
 XX  
 DE Cholera toxin immunostimulatory nucleotide sequence.  
 XX  
 KW Immunostimulatory nucleotide sequence; immune response; cancer;  
 KW antibody production; IFNgamma release; CTL activity; Th1 response;  
 KW infection; allergy; ds.  
 XX  
 OS Unidentified.  
 XX

PN WO200102007-A1.  
 XX  
 PD 11-JAN-2001.  
 XX  
 PF 30-JUN-2000; 2000WO-US018229.  
 XX  
 PR 02-JUL-1999; 99US-00347343.  
 XX  
 PA (REGC ) UNIV CALIFORNIA.  
 XX  
 PI Raz E, Kobayashi H;  
 XX  
 DR WPI; 2001-138066/14.  
 XX  
 PT Enhancing immune response against pathogen or antigen associated with  
 PT infectious diseases, an allergen or cancer, involves administering  
 PT immunostimulatory nucleotide sequence prior to antigen exposure.  
 XX  
 PS Example 1; Page 14; 47pp; English.  
 XX  
 CC The present invention describes a method for enhancing an immune response  
 CC to a substance, comprising administering an immunostimulatory nucleotide  
 CC sequence to a subject prior to exposure to the substance. This can be  
 CC used to enhance antibody production, IFNgamma release, CTL activity and  
 CC Th1 related effects. The method can be used in the prevention and  
 CC treatment of allergies, cancer and infections  
 XX  
 SQ Sequence 22 BP; 6 A; 3 C; 7 G; 6 T; 0 U; 0 Other;

Query Match 100.0%; Score 22; DB 4; Length 22;  
 Best Local Similarity 100.0%; Pred. No. 0.21;  
 Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 1 TGAAGTGAACGTCGAGATGA 22  
 XX ||||||||||||||||||  
 XX  
 Db 1 TGAAGTGAACGTCGAGATGA 22

RESULT 20  
 AAH44109  
 ID AAH44109 standard; DNA; 22 BP.  
 XX  
 AC AAH44109;  
 XX  
 DT 12-SEP-2001 (first entry)  
 XX  
 DE 5' terminal NH2 group and a 3' terminal rhodamine moiety oligonucleotide.  
 XX  
 KW Peptide nucleic acid; intracellular protein delivery; cationic lipid;  
 KW PNA; ss.  
 XX  
 OS Synthetic.  
 XX  
 FH Key Location/Qualifiers  
 FH modified\_base 1  
 FT /\*tag= a  
 FT /mod\_base= OTHER  
 FT /note= "T has been modified at the 5' terminal with an  
 FT NH2 group"  
 FT 22  
 FT /\*tag= b  
 FT /mod\_base= OTHER  
 FT /note= "A has been modified at the 3' terminal with  
 FT rhodamine"  
 XX  
 PN WO200143778-A1.  
 XX  
 PD 21-JUN-2001.  
 XX  
 PF 15-DEC-2000; 2000WO-US033969.  
 XX  
 PR 17-DEC-1999; 99US-0172441P.  
 XX



XX WPI; 2001-015529/02.  
DR  
XX  
XX  
PT Immunogenic composition useful for stimulating an immune response in a  
PT mammal against *Neisseria* infection, comprises *Neisseria* antigen and an  
PT adjuvant composition comprising an oligonucleotide with a CG motif.  
XX  
XX  
PS Claim 19; Page 9; 39pp; English.  
XX  
CC The present invention describes an immunogenic composition (I) comprising  
CC a *Neisseria* antigen and an adjuvant composition comprising an  
CC oligonucleotide comprising at least 1 CG motif. Also described is an  
CC adjuvant composition (II) comprising an oligonucleotide which comprises  
CC at least 1 CG motif and a complete Freund's adjuvant (CFA), where the  
CC oligonucleotide preferably comprises at least one phosphorothioate bond.  
CC AAA92359 to AAA92385 represent specifically claimed oligonucleotides of  
CC the present invention. (I) is useful for stimulating an immune response  
CC in a mammal, preferably a human, against *Neisseria* infection, preferably  
CC *Neisseria meningitidis* infection and in the manufacture of a medicament  
CC for inducing a protective immune response in a mammal  
CC  
SQ  
XX  
XX  
Query Match 100.0%; Score 22; DB 4; Length 22;  
Best Local Similarity 100.0%; Pred. No. 0.21;  
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;  
QY 1 TGAAGTGAACGTTGAGATGA 22  
1 TGAAGTGAACGTTGAGATGA 22  
DB  
RESULT 23  
AAH42533  
ID AAH42533 standard; DNA; 22 BP.  
AC AAH42533;  
XX  
XX  
DT 01-OCT-2001 (first entry)  
XX  
DB Phosphorothioate beta-gal/immunostimulatory oligonucleotide.  
XX  
XX Anaphylactic hypersensitivity; immunomodulatory nucleic acid; vaccine;  
KW anaphylaxis-associated symptom; Igs; histamine; phosphorothioate; ss.  
XX  
OS Synthetic.  
XX  
PN WO200145750-A1.  
XX  
XX  
PD 28-JUN-2001.  
XX  
PF 20-DEC-2000; 2000WO-US035064.  
XX  
PR 21-DEC-1999; 99US-0171830P.  
XX  
XX (REGC ) UNITV CALIFORNIA.  
PA  
PI Raz E, Horner AA;  
XX  
XX WPI; 2001-475812/51.  
DR  
XX  
PT Reducing risk of anaphylactic hypersensitivity response to an allergen in  
PT a subject, by administering an immunomodulating nucleic acid molecule  
PT comprising a specific sequence.  
XX  
XX  
PS Example 1; Page 22; 39pp; English.  
XX  
CC The specification describes a method for reducing a symptom associated  
CC with anaphylactic hypersensitivity or risk of anaphylactic response in a  
CC subject. The method comprises administering to an individual a nucleic  
CC acid molecule comprising an immunomodulatory nucleic acid molecule (INA)  
CC comprising the sequence 5'-C-G-3' to reduce anaphylaxis-associated  
CC symptom. The method is useful for reducing a symptom associated with

CC anaphylactic hypersensitivity, including elevated IgE level, elevated  
CC histamine level, constriction of the airways and difficult breathing  
CC which can lead to anaphylactic reaction or anaphylactic shock, thereby  
CC reducing the risk of death. The present sequence represents a beta-  
CC gal/immunostimulatory sequence, which was used as a vaccine to protect  
CC against the development of anaphylactic hypersensitivity  
CC  
XX  
XX  
SQ Sequence 22 BP; 6 A; 3 C; 7 G; 6 T; 0 U; 0 Other;  
XX  
XX  
Query Match 100.0%; Score 22; DB 4; Length 22;  
Best Local Similarity 100.0%; Pred. No. 0.21;  
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;  
QY 1 TGAAGTGAACGTTGAGATGA 22  
1 TGAAGTGAACGTTGAGATGA 22  
DB  
RESULT 24  
AAH41573  
ID AAH41573 standard; DNA; 22 BP.  
AC AAH41573;  
XX  
XX  
DT 24-AUG-2001 (first entry)  
XX  
DB Immunostimulatory sequence (ISS) SEQ ID NO.1.  
XX  
XX  
KW Immunostimulatory sequence; ISS; immunomodulatory; immune response;  
KW antigen; antiallergic; modulation; Th1 lymphocyte stimulation; allergy;  
KW Th1-associated cytokine; Th2 lymphocyte suppression; cytokine; ss.  
XX  
OS Synthetic.  
XX  
PN WO200135991-A2.  
XX  
XX  
PD 25-MAY-2001.  
XX  
PF 15-NOV-2000; 2000WO-US01385.  
XX  
PR 15-NOV-1999; 99US-0165467P.  
PR 14-NOV-2000; 2000US-0073136.  
XX  
XX (DYNA-) DYNAVAX TECHNOLOGIES CORP.  
PA  
PI Tuck S, Van Nest G;  
XX  
XX WPI; 2001-329209/34.  
DR  
XX  
XX  
PT Populations of conjugate molecules comprising polynucleotide  
PT immunostimulatory sequences polynucleotides and antigens, useful for  
PT controlling immune responses.  
XX  
XX  
PS Example 1; Page 30; 97pp; English.  
XX  
XX  
CC The present invention describes immunomodulatory populations (I) and  
CC (II) of conjugate molecules (CMs) comprising immunostimulatory sequences  
CC (ISS) of polynucleotides and antigens. The extent of conjugation affects  
CC the immunological properties (e.g. the extent of antigen-specific  
CC antibody formation, including Th1-associated antibody formation) so the  
CC conjugates are used for altering the type and extent of immune response.  
CC (I) and (II) have immunomodulatory, immunosuppressive and antiallergic  
CC activities, and can be used in the modulation of immune responses via the  
CC stimulation of Th1 lymphocytes and Th1-associated cytokines, and  
CC suppression of Th2 lymphocytes and cytokines. The populations (I) and  
CC (II) of conjugate molecules may be used for modulating immune responses  
CC in individuals e.g. for the treatment of an allergic condition. (I) and  
CC (II) may be used to modulate immune responses and therefore prevent  
CC potentially harmful reactions to antigens. The present sequence  
CC represents an ISS polynucleotide which is used in the exemplification of  
CC the present invention  
XX  
XX  
SQ Sequence 22 BP; 6 A; 3 C; 7 G; 6 T; 0 U; 0 Other;



Query Match 100.0%; Score 22; DB 5; Length 22;  
Best Local Similarity 100.0%; Pred. No. 0.21;  
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 TGAAGTGAACGTTGAGATGA 22  
1 TGAAGTGAACGTTGAGATGA 22  
DB 1 TGAAGTGAACGTTGAGATGA 22

## RESULT 25

AS14664 standard; DNA; 22 BP.

AS14664;

18-DEC-2001 (first entry)

Immunostimulatory sequence, ISS #1.

Immunostimulatory sequence; ISS; ds; antiviral; immunogen;

respiratory syncytial virus; RSV; influenza virus; rhinovirus;

adenovirus; measles virus; mumps virus; parainfluenza virus;

rubella virus; poxvirus; parvovirus; hantavirus; varicella virus.

Respiratory syncytial virus.

Synthetic.

Key Location/Qualifiers  
modified\_base 1..22  
/\*tag= a  
/label= OTHER  
/note= "phosphorothioate Backbone"

MO200168116-A2.

20-SEP-2001.

12-MAR-2001; 2001WO-US007839.

10-MAR-2000; 2000US-0188583P.

09-MAR-2001; 2001US-00802686.

(DYNA-) DYNAVAX TECHNOLOGIES CORP.

Van Nest G;

WPI; 2001-607438/69.

Immunostimulatory sequence at the site of infection is useful to prevent  
and treat lower respiratory tract viral infections.

Claim 5; Page 37; 40pp; English.

The invention relates to suppressing a respiratory syncytial virus (RSV)  
infection in an exposed individual, comprising administering a  
polynucleotide comprising an immunostimulatory sequence (ISS) comprising  
the sequence 5'-C, G-3', where an RSV antigen is not administered. The  
invention is used to prevent and treat respiratory syncytial virus  
infection of the lower respiratory tract and other viruses including  
influenza virus, rhinovirus, adenovirus, measles virus, mumps virus,  
parainfluenza virus, rubella virus, poxvirus, parvovirus, hantavirus and  
varicella virus. A kit for carrying out the administration is also  
included. Unlike the prior art antiviral agent ribavirin, which is a  
potential teratogen, the invention provides a treatment which does not  
carry unacceptable side effects. Other prior art medicaments treat the  
CC symptoms only, whilst the invention treats the infection. The present  
sequence is an ISS of the invention

Sequence 22 BP; 6 A; 3 C; 7 G; 6 T; 0 U; 0 Other;

Query Match 100.0%; Score 22; DB 5; Length 22;

Best Local Similarity 100.0%; Pred. No. 0.21;  
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 TGAAGTGAACGTTGAGATGA 22  
1 TGAAGTGAACGTTGAGATGA 22  
DB 1 TGAAGTGAACGTTGAGATGA 22

## RESULT 26

ABQ78627 standard; DNA; 22 BP.

ABQ78627;

25-NOV-2002 (first entry)

ISS enhancing HIV-specific Th1 cytokine and humoral responses.

Immunostimulatory sequence; ISS; Th1 cytokine response; humoral response;

HIV, beta-chemokine; immunisation; AIDS; ss.

Unidentified.

WO200258726-A1.

01-AUG-2002.

24-JAN-2002; 2002WO-US002077.

26-JAN-2001; 2001US-0264476P.

(IMMU-) IMMUNE RESPONSE CORP.

Moss RB, Carlo DJ;

WPI; 2002-643331/69.

Treating an HIV-infected individual comprises treatment with anti-  
retroviral compound and immunization with an HIV immunogenic composition  
with structured cycles of anti-retroviral treatment and withdrawal from  
treatment.

Disclosure; Page 15; 31pp; English.

The present sequence represents an exemplary immunostimulatory sequence  
(ISS) which enhances HIV-specific Th1 cytokine and humoral responses, and  
also enhances both non-specific and HIV-specific beta-chemokine  
production. ISSs can be included in HIV immunogenic compositions of the  
invention. The specification describes a method for treating an HIV-  
infected individual, which comprises combining immunisation with an anti-  
retroviral compound, an HIV immunogenic composition with structured  
cycles of anti-retroviral treatment and withdrawal from treatment. The  
advantages of the method of the invention include a delay in the rebound  
to an unacceptably high viral load; a more rapid or sustained increase in  
CC HIV-specific CD4 T cell counts; a reduction or delay in the development  
of AIDS symptoms, including AIDS-related opportunistic infections; and a  
higher degree of patient compliance with treatment and fewer toxic side  
effects associated with long-term anti-retroviral drug treatment. The  
method is useful for treating an HIV-infected individual

Sequence 22 BP; 6 A; 3 C; 7 G; 6 T; 0 U; 0 Other;

Query Match 100.0%; Score 22; DB 6; Length 22;  
Best Local Similarity 100.0%; Pred. No. 0.21;  
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 TGAAGTGAACGTTGAGATGA 22  
1 TGAAGTGAACGTTGAGATGA 22  
DB 1 TGAAGTGAACGTTGAGATGA 22

## RESULT 27

AS15592

ID	AA815592	standard; DNA; 22 BP.
XX		
AC	AA815592;	
XX		
DT	29-JAN-2002	(first entry)
XX		
DE	Immunostimulatory oligonucleotide (ISS-ODN) #1.	
XX		
KW	Immunostimulatory oligonucleotide; ISS-ODN; antiallergic; antibacterial;	
KW	vinicide; fungicide; vaccine; immunogen; plant allergen; ragweed;	
KW	grass pollen; food; latex; cat dander; cockroach; house dust mite;	
KW	pathogenic parasite; ss.	
XX		
OS	Synthetic.	
XX		
PN	WO200176642-A1.	
XX		
PD	18-OCT-2001.	
XX		
PF	06-APR-2001; 2001WO-US011290.	
XX		
PR	07-APR-2000; 2000US-0195890P.	
XX		
PA	(REGC ) UNIV CALIFORNIA.	
XX		
P1	Raz E, Takabayashi K, Nguyen M;	
XX		
DR	WPI; 2002-025886/03.	
XX		
PT	New polynucleotide vaccine for eliciting immune response to an antigen	
PT	derived from a pathogen, plant or food, comprises antigen-encoding	
PT	nucleic acid sequence derived from non-host species of first phylum or	
PT	kingdom.	
XX		
PS	Example 4; Page 43; 64pp; English.	
CC	The invention relates to a polynucleotide vaccine (I) comprising a	
CC	nucleic acid sequence encoding an antigen derived from a non-host species	
CC	of a first phylum or first kingdom, where the nucleic acid sequence	
CC	encoding the antigen is modified by deletion of a native signal sequence,	
CC	and/or an immunomodulatory nucleic acid sequence. (I) is useful for	
CC	modulating an immune response to an antigen, especially a plant (ragweed	
CC	or grass pollen), food, latex, cat dander, cockroach or house dust mite	
CC	allergen. (I) is also useful for eliciting an immune response to an	
CC	antigen derived from a pathogen, such as bacterium, virus or a parasite.	
CC	The vaccine is co-administered with an immunostimulatory nucleotide	
CC	sequence which comprises an unmethylated 5'-CG-3' nucleotide sequence.	
CC	Antigens of pathogenic parasites include Plasmodium, Leishmania, fungal,	
CC	yeast or other pathogens. The present sequence represents	
CC	immunostimulatory oligonucleotide (ISS-ODN) #1 which is co-injected with	
CC	(I) to amplify the immune response to the co-administered allergen	
XX		
SO	Sequence 22 BP; 6 A; 3 C; 7 G; 6 T; 0 U; 0 Other;	
QY	Query Match	100.0%; Score 22; DB 6; Length 22;
	Best Local Similarity	100.0%; Pred.No. 0.21;
	Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0	
DB	1 TGACTGTGAACGTTGAGATGA 22	
	1 TGACTGTGAACGTTGAGATGA 22	
RESULT 28		
ID	ABA01833	
XX		
AC	ABA03833 standard; DNA; 22 BP.	
XX		
AB	ABA03833;	
XX		
DT	12-FEB-2002	(first entry)
XX		
DE	Immunostimulatory sequence (ISS) SEQ ID NO:1.	

[illegible]

RESULT 29  
ABA03844  
ID ABA03844 standard; DNA; 22 BP.  
XX  
AC ABA03844;  
XX  
DT 12-FEB-2002 (first entry)  
XX  
DE Immunostimulatory sequence (ISS) SEQ ID NO:1.  
XX  
KM Immunostimulatory sequence; ISS; immunostimulation; viral infection;  
KW immunomodulation; virucide; gene therapy; viraemia; phosphorothioate; ss.  
XX  
OS Synthetic.  
XX  
FH Key Location/Qualifiers  
FT modified\_base 1..22  
FT /tag= a  
FT /mod\_base= OTHER  
FT /note= "phosphorothioate linkages"  
XX  
PN WO200168077-A2.  
XX  
PD 20-SEP-2001.  
XX  
PF 12-MAR-2001; 2001WO-US007840.  
XX  
PR 10-MAR-2000; 2000US-0188302P.  
XX  
PR 09-MAR-2001; 2001US-00802685.  
XX  
PA (DYNA-) DYNAVAX TECHNOLOGIES CORP.  
XX  
PI Van Nest G;  
XX  
DR MPI; 2002-048999/06.  
XX  
PT Reducing severity, recurrence or duration of symptom of virus infection,  
PT or reducing viraemia or blood levels of virus antigen, comprises  
PT administering a polynucleotide having an immunostimulatory sequence.  
XX  
PS Claim 4; Page 54; 65pp; English.  
XX  
CC The present invention describes a method for reducing severity of a  
CC symptom of virus infection in an individual infected with a virus. The  
CC method comprises administering a composition consisting of a  
CC polynucleotide having an immunostimulatory sequence (ISS). The ISS  
CC comprises the sequence 5'-C,G,pyrimidine,pyrimidine,C,G-3'. An antigen is  
CC administered in conjunction with the composition. ISS has virucide  
CC activity and can be used in gene therapy. The method using the ISS can be  
CC used for suppressing, ameliorating and/or preventing viral infections to  
CC an individual who may be at risk of being exposed to, exposed to or  
CC infected by a virus. It may also be used in reducing the recurrence or  
CC duration of a symptom of viral infection, delaying the development of a  
CC virus infection, and reducing viraemia or blood levels of virus antigens.  
CC The present sequence represents a specifically claimed ISS for use in the  
CC method of the invention  
XX  
SQ Sequence 22 BP; 6 A; 3 C; 7 G; 6 T; 0 U; 0 Other;  
Query Match 100.0%; Score 22; DB 6; Length 22;  
Best Local Similarity 100.0%; Pred. No. 0.21;  
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;  
QY 1 TGACTGTGAACGTTGAGATGA 22  
DB 1 TGACTGTGAACGTTGAGATGA 22  
RESULT 30  
AAS16337  
ID AAS16337 standard; DNA; 22 BP.  
XX  
AC AAS16337;  
XX

XX  
DT 14-FEB-2002 (first entry)  
XX  
DE ISS polynucleotide #1 useful for treating herpes virus infections.  
XX  
KM Herpes simplex virus; HSV infection; immunostimulatory sequence; ISS;  
KW immune response; alphaherpesvirinae; herpes virus zoster virus; VZV;  
KW HSV-1; HSV-2; chicken pox; herpes labialis; cold sore; genital herpes;  
KW virucide; phosphorothioate; ss.  
XX  
OS Synthetic.  
XX  
FH Key Location/Qualifiers  
FT modified\_base 1..22  
FT /tag= a  
FT /mod\_base= OTHER  
FT /note= "Optionally phosphorothioate internucleotide  
FT linkages"  
XX  
PN WO200168103-A2.  
XX  
PD 20-SEP-2001.  
XX  
PF 12-MAR-2001; 2001WO-US007841.  
XX  
PR 10-MAR-2000; 2000US-0188556P.  
XX  
PR 09-MAR-2001; 2001US-00802518.  
XX  
PA (DYNA-) DYNAVAX TECHNOLOGIES CORP.  
XX  
PI Van Nest G;  
XX  
DR MPI; 2002-041171/05.  
XX  
PT Preventing, reducing the severity or reducing the recurrence of an  
PT infection or symptom of herpes simplex virus (HSV), e.g. HSV-2, comprises  
PT administering an immunostimulatory sequence to an individual.  
XX  
PS Claim 5; Page 41; 49pp; English.  
XX  
CC The present invention relates to novel methods of treating, preventing,  
CC or reducing the severity or recurrence of a symptom of herpes simplex  
CC virus (HSV) infection in an individual who has been exposed to or who is  
CC infected with HSV. The method comprises administering a polynucleotide  
CC having an immunostimulatory sequence (ISS; AAS16337-AAS16345) which  
CC induces an immune response. A composition containing ISS is administered  
CC without a HSV (alphaherpesvirinae) antigen. The composition can be  
CC included in a kit for ameliorating or preventing a symptom of HSV  
CC infection caused by herpes virus zoster virus (VZV), HSV-1 and  
CC particularly HSV-2. Such HSV infections include chicken pox, herpes  
CC labialis (cold sores) and genital herpes. The present sequence represents  
CC one of the ISS polynucleotides of the invention. Note: The present  
CC sequence is shown as single stranded in the specification, but the  
CC patents state on page 20 that this sequence may be double stranded  
XX  
SQ Sequence 22 BP; 6 A; 3 C; 7 G; 6 T; 0 U; 0 Other;  
Query Match 100.0%; Score 22; DB 6; Length 22;  
Best Local Similarity 100.0%; Pred. No. 0.21;  
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;  
QY 1 TGACTGTGAACGTTGAGATGA 22  
DB 1 TGACTGTGAACGTTGAGATGA 22  
RESULT 31  
AAD24885  
ID AAD24885 standard; DNA; 22 BP.  
XX  
AC AAD24885;  
XX  
DT 12-MAR-2002 (first entry)  
XX

```
XX Immunostimulatory oligodeoxynucleotide (ISS-ODN) 1.
DE Cell death; DNA damage; DNA-dependent protein kinase; DNA-PK; necrosis;
XX immune response; apoptosis; Alzheimer's disease; Parkinson's disease;
XX rheumatoid arthritis; inflammation; osteoporosis; myocardial infarction;
XX liver disease; reperfusion injury; carcinoma; multiple sclerosis; stroke;
XX amyotrophic lateral sclerosis; Acquired Immune Deficiency Syndrome; AIDS;
XX head injury damage; aplastic anaemia; tumour; organ transplantation;
XX cerebral infarction; follicular lymphomas; systemic lupus erythematosus;
XX viral infection; glomerulonephritis; apoptosis; autoimmune disorder;
XX sepsis; immunostimulatory oligodeoxynucleotide; ISS-ODN; ss.
OS Unidentified.
XX
XX WO200185910-A2.
XX
XX 15-NOV-2001.
XX
XX 04-MAY-2001; 2001WO-US014508.
XX
XX 05-MAY-2000; 2000US-0202274P.
XX
XX 17-JAN-2001; 2001US-0262321P.
XX
XX (REGC ) UNIV CALIFORNIA.
XX
XX Raz E, Lois AF, Takabayashi K;
XX
XX WPI; 2002-062244/08.
XX
XX Modulating cell death or reducing DNA damage in eukaryotic cells, useful
XX for reducing cell death in individual or organ, comprises contacting cell
XX with agent modulating biological activity of DNA-dependent protein
XX kinase.
XX
XX Example 1; Page 29; 57pp; English.
XX
XX The invention relates to a method for modulating cell death or reducing
XX DNA damage in an eukaryotic cell by contacting the cell with an agent
XX that modulates the biological activity of DNA-dependent protein kinase
XX (DNA-PK). The invention also relates to nucleic acids which modulate the
XX immune response binding to Ku antigen, resulting in activation of DNA-PK.
XX The method is useful for modulating cell death or reducing DNA damage in
XX an eukaryotic cell, for treating any disorder resulting from a genotoxic
XX insert to a cell e.g., necrosis, apoptosis. The method is also useful for
XX treating cell death-related indications such as Alzheimer's disease,
XX Parkinson's disease, rheumatoid arthritis, septic shock, sepsis, stroke,
XX central nervous system inflammation, osteoporosis, degenerative liver
XX disease, cerebellar degeneration, reperfusion injury, multiple sclerosis,
XX amyotrophic lateral sclerosis, myocardial infarction, head injury damage,
XX acquired immunodeficiency syndrome (AIDS), aplastic anaemia, cerebral
XX infarction, bypass heart surgery, organ transplantation. The method is
XX also useful for treating follicular lymphomas, carcinomas, autoimmune
XX disorders (systemic lupus erythematosus), hormone dependent tumours,
XX immune mediated glomerulonephritis, apoptosis and viral infections. The
XX present sequence is immunostimulatory oligodeoxynucleotide (ISS-ODN) used
XX for identifying ISS-binding protein, which is used in the exemplification
XX of the invention
XX
XX Sequence 22 BP; 6 A; 3 C; 7 G; 6 T; 0 U; 0 Other;
XX
XX Query Match 100.0%; Score 22; DB 6; Length 22;
XX Best Local Similarity 100.0%; Pred. No. 0.21;
XX Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
XX
XX 1 TGACTGTGAACGTTCCGAGATGA 22
XX |||||||||||||||||||
XX 1 TGACTGTGAACGTTCCGAGATGA 22
XX
XX RESULT 32
XX AAD21877
XX ID AAD21877 standard; DNA; 22 BP.
```

```
XX
XX AAD21877;
XX
XX 12-FEB-2002 (first entry)
XX
XX Immunostimulatory sequence oligonucleotide (ISS-ODN) #1.
XX
XX Cytotoxic T lymphocyte; CTL; T cell; tumour load; cancer radiotherapy;
XX immunostimulatory sequence oligonucleotide; ISS-ODN; chemotherapy;
XX immunosuppression; transplantation; autoimmune disease; infection;
XX acquired immune deficiency syndrome; AIDS; intracellular pathogen;
XX cytomegalovirus; mycobacterial infection; Epstein-Barr virus;
XX varicella zoster virus; human immunodeficiency virus; HIV;
XX phosphorothioate backbone; ss.
XX
XX Unidentified.
XX
XX
XX OS
XX
XX Key Location/Qualifiers
XX modified_base 1..22
XX /*tag= a
XX /mod_base= OTHER
XX /note= "Phosphorothioate backbone"
XX modified_base 1
XX /*tag= b
XX /mod_base= OTHER
XX /note= "diethylphide thymine"
XX
XX WO200172123-A1.
XX
XX 04-OCT-2001.
XX
XX 28-MAR-2001; 2001WO-US010118.
XX
XX 28-MAR-2000; 2000US-0192537P.
XX
XX 11-MAY-2000; 2000US-0203567P.
XX
XX 05-JUL-2000; 2000US-0215895P.
XX
XX (REGC ) UNIV CALIFORNIA.
XX (VETE-) DEPT VETERANS AFFAIRS.
XX
XX Raz E, Cho HJ, Richman DD, Horner AA;
XX
XX WPI; 2002-010699/01.
XX
XX Increasing antigen-specific cytotoxic T lymphocyte activity in a CD4+ T
XX cell deficient individual, useful to treat immunodeficiency and block HIV
XX infection, comprises administering immunostimulatory nucleic acid.
XX
XX Example 1; Page 44; 91pp; English.
XX
XX The present invention relates to a method for increasing antigen-specific
XX cytotoxic T lymphocyte (CTL) activity in a CD4+ T cell-deficient
XX individual, comprising administering an immunostimulatory sequence
XX oligonucleotide (ISS-ODN). The immunostimulatory nucleic acids of the
XX invention are used in CD4+ T cell-deficient individuals to decrease
XX tumour load, to treat a primary or acquired immunodeficiency,
XX particularly where the acquired immunodeficiency is temporary and due to
XX cancer radiotherapy or chemotherapy or immunosuppression following bone
XX marrow or organ transplantation, or autoimmune disease treatment, or is
XX acquired immunodeficiency syndrome (AIDS). The nucleic acids may be used
XX to treat a person at risk of becoming CD4+ T cell-deficient, particularly
XX where someone at risk of cancer recurrence. They are also used to treat
XX infection, particularly by an intracellular pathogen, especially one
XX caused by cytomegalovirus, Mycobacterium tuberculosis, M. avium, Epstein-
XX Barr virus, a fungus yeast, varicella zoster virus or human
XX immunodeficiency virus (HIV). The present sequence is a 5' disulfide-
XX linked phosphorothioate immunostimulatory sequence oligonucleotide (ISS-
XX ODN), used in the exemplification of the invention
XX
XX Sequence 22 BP; 6 A; 3 C; 7 G; 6 T; 0 U; 0 Other;
XX
XX Query Match 100.0%; Score 22; DB 6; Length 22;
XX Best Local Similarity 100.0%; Pred. No. 0.21;
```

Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 TGAAGTGAACGTTGAGATGA 22  
| | | | | | | | | | | | | | | | | | | | | |  
Db 1 TGAAGTGAACGTTGAGATGA 22

## RESULT 33

ABQ75259

ID ABQ75259 standard; DNA; 22 BP.

AC ABQ75259;

DT 05-NOV-2002 (first entry)

DE ISS immunomodulatory positive control oligonucleotide SEQ ID NO:59.

KW Immunostimulatory sequence; ISS: immunomodulatory; immune response;  
KW allergy; asthma; infectious disease; interferon-gamma; IFN-gamma;  
KW idiopathic pulmonary fibrosis; viral infection; mycobacterial disease;  
KW malaria; leishmaniasis; toxoplasmosis; schistosomiasis; clonorchiasis;  
KW immunoglobulin E; IGE-related disorder; anti-allergic; antiasthmatic;  
KW virucide; antibacterial; protozoacide; ss.

OS Synthetic.

PN WO200252002-A2.

PD 04-JUL-2002.

PF 27-DEC-2001; 2001WO-US050821.

PR 27-DEC-2000; 2000US-0258675P.

PA (DYNA-) DYNVAX TECHNOLOGIES CORP.

PI Fearon KL, Dina D;

DR WPI; 2002-657426/70.

PT Immunomodulatory polynucleotide for modulating an immune response in a  
PT subject suffering from disorders associated with Th2-type immune  
PT response, e.g. allergy, or infectious disease, comprises an  
PT immunostimulatory sequence.

PS Example 1; Page 71; 95pp; English.

XX The present invention describes an immunomodulatory polynucleotide (I)  
XX comprising an immunostimulatory sequence (ISS). Also described: (1) an  
XX immunomodulatory composition comprising (1); (2) an immunomodulatory  
XX polynucleotide/microcarrier (IMP/MC) complex, comprising (1) linked to a  
XX biodegradable MC, where the MC is less than 10 micrometre in size; and  
XX (3) a kit comprising (1). (1) has anti-allergic, antiasthmatic, virucide,  
XX antibacterial and protozoacide activities, and can be used as a modulator  
XX of immune response. (1) is useful for modulating an immune response in an  
XX individual suffering from disorders associated with a Th2-type immune  
XX response, especially an allergy or asthma, or an infectious disease. (1)  
XX is also useful for increasing interferon-gamma (IFN-gamma) in an  
XX individual having idiopathic pulmonary fibrosis, or IFN-alpha in an  
XX individual having a viral infection. (1) is further useful for  
XX ameliorating a symptom of an infectious disease caused by a cellular  
XX pathogen such as mycobacterial disease, malaria, leishmaniasis,  
XX toxoplasmosis, schistosomiasis and clonorchiasis in an individual, or a  
XX symptom of an immunoglobulin E (IGE)-related disorder, preferably an  
XX allergy-related disorder, in particular asthma in an individual. The  
XX present sequence represents an immunomodulatory related oligonucleotide  
XX which was used in an example from the present invention

SO Sequence 22 BP; 6 A; 3 C; 7 G; 6 T; 0 U; 0 Other;

Query Match 100.0%; Score 22; DB 6; Length 22;  
Best Local Similarity 100.0%; Pred. No. 0.21;  
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 TGAAGTGAACGTTGAGATGA 22  
| | | | | | | | | | | | | | | | | | | | | |  
Db 1 TGAAGTGAACGTTGAGATGA 22

## RESULT 34

ABQ75153

ID ABQ75153 standard; DNA; 22 BP.

AC ABQ75153;

DT 05-NOV-2002 (first entry)

DE ISS immunomodulatory oligonucleotide SEQ ID NO:2.

KW Immunostimulatory sequence; ISS: immunomodulatory; immune response;  
KW allergy; asthma; infectious disease; interferon-gamma; IFN-gamma;  
KW idiopathic pulmonary fibrosis; viral infection; mycobacterial disease;  
KW malaria; leishmaniasis; toxoplasmosis; schistosomiasis; clonorchiasis;  
KW immunoglobulin E; IGE-related disorder; anti-allergic; antiasthmatic;  
KW virucide; antibacterial; protozoacide; ss.

OS Synthetic.

FH Key Location/Qualifiers

FT misc\_RNA 13

FT FT /tag= a

PN WO200252002-A2.

PD 04-JUL-2002.

PF 27-DEC-2001; 2001WO-US050821.

PR 27-DEC-2000; 2000US-0258675P.

PA (DYNA-) DYNVAX TECHNOLOGIES CORP.

PI Fearon KL, Dina D;

DR WPI; 2002-657426/70.

PT Immunomodulatory polynucleotide for modulating an immune response in a  
PT subject suffering from disorders associated with Th2-type immune  
PT response, e.g. allergy, or infectious disease, comprises an  
PT immunostimulatory sequence.

PS Claim 4; Page 20; 95pp; English.

XX The present invention describes an immunomodulatory polynucleotide (I)  
XX comprising an immunostimulatory sequence (ISS). Also described: (1) an  
XX immunomodulatory composition comprising (1); (2) an immunomodulatory  
XX polynucleotide/microcarrier (IMP/MC) complex, comprising (1) linked to a  
XX biodegradable MC, where the MC is less than 10 micrometre in size; and  
XX (3) a kit comprising (1). (1) has anti-allergic, antiasthmatic, virucide,  
XX antibacterial and protozoacide activities, and can be used as a modulator  
XX of immune response. (1) is useful for modulating an immune response in an  
XX individual suffering from disorders associated with a Th2-type immune  
XX response, especially an allergy or asthma, or an infectious disease. (1)  
XX is also useful for increasing interferon-gamma (IFN-gamma) in an  
XX individual having idiopathic pulmonary fibrosis, or IFN-alpha in an  
XX individual having a viral infection. (1) is further useful for  
XX ameliorating a symptom of an infectious disease caused by a cellular  
XX pathogen such as mycobacterial disease, malaria, leishmaniasis,  
XX toxoplasmosis, schistosomiasis and clonorchiasis in an individual, or a  
XX symptom of an immunoglobulin E (IGE)-related disorder, preferably an  
XX allergy-related disorder, in particular asthma in an individual. The  
XX present sequence represents an immunomodulatory oligonucleotide which is  
XX specifically claimed in the present invention

SO Sequence 22 BP; 6 A; 3 C; 7 G; 5 T; 1 U; 0 Other;

Query Match 100.0%; Score 22; DB 6; Length 22;  
Best Local Similarity 95.5%; Pred. No. 0.21;  
Matches 21; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

QY 1 TGACTGTGAACGTTCCGAGATGA 22  
1 TGACTGTGAACGTTCCGAGATGA 22

Db 1 TGACTGTGAACGTTCCGAGATGA 22

RESULT 35  
ABQ75206  
ID ABQ75206 standard; DNA; 22 BP.  
XX  
AC ABQ75206;  
XX  
DT 05-NOV-2002 (first entry)  
XX  
XX  
DE ISS immunomodulatory oligonucleotide SEQ ID NO:40.  
XX  
XX Immunostimulatory sequence; ISS: immunomodulatory; immune response;  
KW allergy; asthma; infectious disease; interferon-gamma; IFN-gamma;  
KW idiopathic pulmonary fibrosis; viral infection; mycobacterial disease;  
KW malaria; leishmaniasis; toxoplasmosis; schistosomiasis; clonorchiasis;  
KW immunoglobulin E; IgE-related disorder; antiallergic; antiasthmatic;  
KW virucide; antibacterial; protozoacide; ss.  
XX  
XX Synthetic.  
OS  
FH Key Location/Qualifiers  
FT misc\_RNA 14 /\*tag= a  
FT /note= "uracil"  
XX  
XX WO200252002-A2.  
XX  
XX 04-JUL-2002.  
XX  
XX 27-DEC-2001; 2001WO-US050821.  
XX  
XX 27-DEC-2000; 2000US-0258675P.  
XX  
XX (DYNA-) DYNVAX TECHNOLOGIES CORP.  
XX  
XX Fearon KL, Dina D;  
XX  
XX WPI; 2002-657426/70.  
XX  
XX Immunomodulatory polynucleotide for modulating an immune response in a  
PT subject suffering from disorders associated with Th2-type immune  
PT response, e.g. allergy, or infectious disease, comprises an  
PT immunostimulatory sequence.  
XX  
XX  
XX Disclosure; Page 22; 95pp; English.  
XX  
XX The present invention describes an immunomodulatory polynucleotide (I)  
CC comprising an immunostimulatory sequence (ISS). Also described: (1) an  
CC immunomodulatory composition comprising (1); (2) an immunomodulatory  
CC polynucleotide/microcarrier (IMP/MC) complex, comprising (1) linked to a  
CC biodegradable MC, where the MC is less than 10 micrometre in size; and  
CC (3) a kit comprising (1). (1) has antiallergic, antiasthmatic, virucide,  
CC antibacterial and protozoacide activities, and can be used as a modulator  
CC of immune response. (1) is useful for modulating an immune response in an  
CC individual suffering from disorders associated with a Th2-type immune  
CC response, especially an allergy or asthma, or an infectious disease. (1)  
CC is also useful for increasing interferon-gamma (IFN-gamma) in an  
CC individual having idiopathic pulmonary fibrosis, or IFN-alpha in an  
CC individual having a viral infection. (1) is further useful for  
CC ameliorating a symptom of an infectious disease caused by a cellular  
CC pathogen such as mycobacterial disease, malaria, leishmaniasis,  
CC toxoplasmosis, schistosomiasis and clonorchiasis in an individual, or a  
CC symptom of an immunoglobulin E (IgE)-related disorder, preferably an  
CC allergy-related disorder, in particular asthma in an individual. The

CC present sequence represents an immunomodulatory oligonucleotide from the  
CC present invention  
XX  
XX Sequence 22 BP; 6 A; 3 C; 7 G; 5 T; 1 U; 0 Other;  
SQ

Query Match 100.0%; Score 22; DB 6; Length 22;  
Best Local Similarity 95.5%; Pred. No. 0.21;  
Matches 21; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

QY 1 TGACTGTGAACGTTCCGAGATGA 22  
1 TGACTGTGAACGTTCCGAGATGA 22

Db 1 TGACTGTGAACGTTCCGAGATGA 22

RESULT 36  
ABV73190  
ID ABV73190 standard; DNA; 22 BP.  
XX  
AC ABV73190;  
XX  
XX  
XX 08-JAN-2003 (first entry)  
XX  
XX  
XX Nucleotide sequence of an immunostimulatory oligonucleotide ISS-1.  
DE  
KW Immunomodulator; immunostimulant; antiinflammatory; antiasthmatic; Th2;  
KW antiallergic; dermatological; vaccine; gene therapy; immune response; ss.  
XX  
XX Synthetic.  
OS  
XX  
XX WO200274922-A2.  
XX  
XX 26-SEP-2002.  
XX  
XX 15-MAR-2002; 2002WO-US008207.  
XX  
XX 16-MAR-2001; 2001US-0276865P.  
XX  
XX (REGC ) UNIV CALIFORNIA.  
XX  
XX Broide DH, Raz E;  
XX  
XX WPI; 2002-740857/80.  
XX  
XX Suppressing a symptom of an allergic response in a subject, useful for  
PT preventing inflammation associated with allergy, comprises administering  
PT to an antigen-sensitized host first and second doses of an  
PT immunomodulatory nucleic acid.  
XX  
XX  
XX Example; Page 27; 98pp; English.  
XX  
XX The invention relates to suppressing symptoms of allergic response that  
CC involves administering to an antigen-sensitized mammalian host a dose of  
CC a composition comprising an immunomodulatory nucleic acid, and a second  
CC dose of a composition comprising an immunomodulatory nucleic acid, about  
CC 1 day - 8 weeks after the first dose. The immunomodulatory nucleic acid  
CC comprises a nucleotide sequence comprising 5'-C<sub>3</sub>-3'. The methods are  
CC useful for suppressing a symptom of an allergic reaction in a subject,  
CC maintaining suppression of a Th2 immune response and maintaining  
CC stimulation of a Th1 immune response. One method is useful in preventing  
CC the onset of, or rapidly suppress, antigen-stimulated inflammation in a  
CC host. The immunostimulatory nucleic acids are useful in the treatment and  
CC prevention of inflammation associated with allergy, including antigen-  
CC stimulated granulocyte infiltration of tissue, such as occurs in the  
CC respiratory passages of asthmatics during an asthma attack, for boosting  
CC the immune responsiveness of a mammalian host to a sensitizing antigen,  
CC and for treating a host suffering from inflammatory conditions such as  
CC asthma, nasal polyposis, allergic rhinitis, atopic dermatitis, allergic  
CC conjunctivitis, eosinophilic fasciitis, idiopathic hypereosinophilic  
CC syndrome, and cutaneous basophil hypersensitivity. The present sequence  
CC represents the nucleotide sequence of an immunomodulatory oligonucleotide  
XX  
XX Sequence 22 BP; 6 A; 3 C; 7 G; 6 T; 0 U; 0 Other;

Query Match 100.0%; Score 22; DB 6; Length 22;  
Best Local Similarity 100.0%; Pred. No. 0.21;  
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 TGACTGTGAACGTTGAGATGA 22  
DB 1 TGACTGTGAACGTTGAGATGA 22

## RESULT 37

AA516348  
ID AA516348 standard; DNA; 22 BP.

AA516348;

14-FEB-2002 (first entry)

ISS polynucleotide #1 useful for treating papillomavirus infections.

Animal papillomavirus infection; human papillomavirus; HPV; STD; wart;

sexually transmitted disease; cervical cancer; immune response;

immunostimulatory sequence; ISS; virucide; phosphorothioate; ss.

Synthetic.

Key modified\_base

1..22  
/tag= a  
/mod\_base= OTHER  
/note= "Optionally phosphorothioate linkages"

WO200168117-A2.

20-SEP-2001.

12-MAR-2001; 2001WO-US007842.

10-MAR-2000; 2000US-0188265P.

09-MAR-2001; 2001US-00802445.

(DYNA-) DYNAVAX TECHNOLOGIES CORP.

Van Nest G;

WPI; 2002-041172/05.

Treating, preventing or ameliorating papillomavirus infections, comprises administering a composition comprising a polynucleotide having an immunostimulatory sequence to the individual.

Claim 4; Page 39; 44pp; English.

The present invention relates to novel methods of treating, preventing, or reducing the severity or recurrence of a symptom of papillomavirus infection in an individual that has been exposed to or who is infected with papillomavirus. The method comprises administering a polynucleotide having an immunostimulatory sequence (ISS; AA516348-AA516355) which induces an immune response. A composition containing ISS is administered without a papillomavirus antigen. The composition can be included in a kit for ameliorating or preventing a symptom of human or animal papillomavirus infection. Infections with human papillomavirus (HPV) which can be prevented or treated using the method of the invention include sexually transmitted diseases (STDs), warts, papillomas and cervical cancer. The present sequence represents one of the ISS polynucleotides of the invention. Note: The present sequence is shown as single stranded in the specification, but the patentees state on page 20 that this sequence may be double stranded

Sequence 22 BP; 6 A; 3 C; 7 G; 6 T; 0 U; 0 Other;

Query Match 100.0%; Score 22; DB 6; Length 22;  
Best Local Similarity 100.0%; Pred. No. 0.21;  
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 TGACTGTGAACGTTGAGATGA 22  
DB 1 TGACTGTGAACGTTGAGATGA 22

## RESULT 38

AA44504  
ID AA44504 standard; DNA; 22 BP.

AA44504;

08-NOV-2002 (first entry)

Cpg motif oligonucleotide #12.

Vaccine; immune response; microparticle; ds; adsorbent surface;

poly(alpha-hydroxy acid); poly(hydroxy butyric acid); polycaprolactone;

polyorthoester; polycyanacrylate; detergent; submicron emulsion;

viral infection; bacterial infection; parasitic infection;

Cpg oligonucleotide.

Unidentified.

WO200226209-A2.

04-APR-2002.

28-SEP-2001; 2001WO-US030540.

28-SEP-2000; 2000US-0236105P.

30-AUG-2001; 2001US-0315905P.

(CHTR ) CHIRON CORP.

O'hagan D, Otten G, Donnelly JJ, Polo JM, Barnett S, Singh M;

Ulmer J, Dubensky TW;

WPI; 2002-519084/55.

A microparticle to which a biologically active macromolecule is adsorbed,

for use as a vaccine composition to treat viral, bacterial or parasitic

infections, comprises a polymer microparticle, a detergent and a

submicron emulsion.

Disclosure; Page 46; 100pp; English.

The invention relates to a method of raising an immune response in a host

animal. The method of the invention comprises administering a

microparticle that has an adsorbent surface to which a first biologically

active macromolecule (e.g. a nucleic acid) has been adsorbed. The

microparticle comprises a polymer microparticle of poly(alpha-hydroxy

acid), a poly(hydroxy butyric acid), a polycaprolactone, a polyorthoester,

a polycyanacrylate, a detergent, and submicron emulsion. The method/

microparticle of the invention is useful for immunising a host animal

against viral, bacterial or parasitic infections. The present DNA

sequence represents a Cpg oligonucleotide of the invention

Sequence 22 BP; 6 A; 3 C; 7 G; 6 T; 0 U; 0 Other;

Query Match 100.0%; Score 22; DB 6; Length 22;  
Best Local Similarity 100.0%; Pred. No. 0.21;  
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 TGACTGTGAACGTTGAGATGA 22  
DB 1 TGACTGTGAACGTTGAGATGA 22

## RESULT 39

ABA03856  
ID ABA03856 standard; DNA; 22 BP.

ABA03856;

```
AC ABA03856;
XX
XX 12-FEB-2002 (first entry)
XX
XX Immunostimulatory sequence (ISS) SEQ ID NO:1.
DE
XX Immunostimulatory sequence; ISS; immunomodulation; HBV; HCV; infection;
XX hepatitis B virus; hepatitis C virus; anti-inflammatory;
XX hepatotropic; gene therapy; hepatitis infection; viraemia; jaundice;
XX fatigue; abdominal pain; portal hypertension; cirrhosis;
XX phosphorothioate; ss.
XX
XX Synthetic.
OS
XX
XX Key Location/Qualifiers
XX modified_base 1..22
XX FT /*tag= a
XX FT /mod_base= OTHER
XX FT /note= "phosphorothioate linkages"
XX
XX WO200168078-A2.
XX
XX 20-SEP-2001.
XX
XX 12-MAR-2001; 2001WO-US007931.
XX
XX 10-MAR-2000; 2000US-0188301P.
XX
XX 09-MAR-2001; 2001US-00802370.
XX
XX (DYNA-) DYNAMAX TECHNOLOGIES CORP.
XX
XX Van Nest G;
XX
XX MPI; 2002-049000/06.
XX
XX Reducing viremia and blood levels of hepatitis virus antigen in an
XX individual infected with hepatitis B virus, comprises administering a
XX composition comprising a polynucleotide having an immunostimulatory
XX sequence.
XX
XX Claim 5; Page 38; 43pp; English.
XX
XX The present invention describes a method for reducing viraemia or blood
XX levels of a hepatitis virus antigen in an individual infected with
XX hepatitis B virus (HBV). The method comprises administering a composition
XX comprising a polynucleotide having an immunostimulatory sequence (ISS) to
XX the individual, where the ISS comprises the sequence 5'-C1-G-3', an HBV
XX antigen is not administered in conjunction with administration of the
XX composition, and where the composition is administered in an amount
XX sufficient to reduce HBV viraemia or blood levels of a hepatitis virus
XX antigen. ISS has virucide, anti-inflammatory and hepatotropic activities,
XX and/or ameliorating hepatitis infection in an individual, especially for
XX preventing, palliating, ameliorating, reducing and/or eliminating one or
XX more symptoms of HBV or HCV (hepatitis C virus) infection without
XX administering HBV or HCV antigens. The method is specifically useful for
XX reducing viraemia and hepatitis viral antigen in blood. ISS-containing
XX polynucleotides may also be used to improve physical symptoms such as
XX jaundice, fatigue, abdominal pain, and other clinical/laboratory
XX findings associated with hepatitis such as blood levels of liver enzymes,
XX portal hypertension, or cirrhosis. The present sequence represents a
XX specifically claimed ISS oligonucleotide for use in the method of the
XX invention
XX
XX Sequence 22 BP; 6 A; 3 C; 7 G; 6 T; 0 U; 0 Other;
XX
XX Query Match 100.0%; Score 22; DB 6; Length 22;
XX Best Local Similarity 100.0%; Pred. No. 0.21;
XX Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
XX
XX 1 TGACTGTGAACGTTCCGATGA 22
XX
XX 1 TGACTGTGAACGTTCCGATGA 22
XX
XX Db
```

```
RESULT 40
AB257964
ID AB257964 standard; DNA; 22 BP.
XX
XX AB257964;
XX
XX 14-APR-2003 (first entry)
XX
XX Immunostimulatory oligodeoxynucleotide ISS-ODN 1018.
XX
XX ISS-ODN 1018; immunostimulant; vaccine; adjuvant; phosphorothioate;
XX gene therapy; liposome; ss.
XX
XX Synthetic.
XX
XX Key Location/Qualifiers
XX modified_base 1..22
XX FT /*tag= a
XX FT /mod_base= OTHER
XX FT /note= "phosphorothioate linkage"
XX
XX WO2003000232-A2.
XX
XX 03-JAN-2003.
XX
XX 25-JUN-2002; 2002WO-IL000507.
XX
XX 25-JUN-2001; 2001US-0300072P.
XX
XX 17-DEC-2001; 2001US-0339785P.
XX
XX (REGC ) YISSUM RES DEV CO HEBREW UNIV JERUSALEM.
XX
XX (YISSC ) UNIV CALIFORNIA.
XX
XX Barenholz Y, Kedari E, Louria-Hayon Y, Joseph A, Raz E,
XX Takabayashi K;
XX
XX MPI; 2003-201371/19.
XX
XX Loading immunostimulatory oligodeoxynucleotides (ISS-ODNs) in liposomes
XX useful for stimulating an immune response comprises solubilizing at least
XX one liposome-forming lipid in a solvent and drying or freeze-drying the
XX solution.
XX
XX Example; Page 19; 68pp; English.
XX
XX The present sequence is that of phosphorothioate immunostimulatory
XX oligodeoxynucleotide (ISS-ODN) 1018. The invention provides a novel, fast
XX and simple method of preparing liposomes efficiently loaded (i.e. at
XX least 60% loading) with ISS-ODN. The method is based on drying a
XX suspension of amphipathic material and then hydrating it with an aqueous
XX solution containing the ISS-ODN, thereby entrapping it in liposomes
XX formed from the lipid. The ISS-ODN is preferably an endotoxin-free ISS-
XX ODN with a phosphorothioate or phosphodiester backbone. Liposomal ISS-ODN
XX can be used e.g. as a vaccine adjuvant against pathogens and cancer. In
XX the treatment or prevention of diseases caused by certain infectious
XX microorganisms, in the treatment or prevention of allergic diseases, or
XX to boost innate immunity. In examples of the invention, ISS-ODN 1018 was
XX encapsulated in large multilamellar liposomes with up to 95% efficiency.
XX The liposomal formulation was a considerably more potent parenteral
XX adjuvant in mice than the soluble form of ISS-ODN, as shown in
XX experiments with an influenza vaccine. Enhancement of the systemic
XX humoral and cellular response was demonstrated by liposomal ISS-ODN 1018
XX co-administered with hepatitis B vaccine, and of the systemic humoral
XX response when administered with tuberculosis vaccine. Liposomal ISS-ODN
XX 1018 was also used as a adjuvant for a cancer (murine mammary carcinoma)
XX vaccine, and activated resistance to leishmaniasis when administered
XX after infection
XX
XX Sequence 22 BP; 6 A; 3 C; 7 G; 6 T; 0 U; 0 Other;
XX
XX Query Match 100.0%; Score 22; DB 8; Length 22;
XX
```



Best Local Similarity 100.0%; Pred. No. 0.21;  
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy	1	TGACTGTGAACGTTGAGATGA	22
Db	1	TGACTGTGAACGTTGAGATGA	22

Search completed: October 30, 2004, 18:36:35  
Job time : 249 secs

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OM nucleic - nucleic search, using sw model

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Title: US-09-802-376-1  
Perfect score: 22  
Sequence: 1 tgaactgtaacgttcagatga 22

Scoring table: IDENTITY NUC  
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Searched: 824507 segs, 355394441 residues

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Post-processing: Minimum Match 0%  
Maximum Match 100%  
Listing first 100 summaries

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Pred. No. is the number of results predicted by chance to have a  
score greater than or equal to the score of the result being printed,  
and is derived by analysis of the total score distribution.

## SUMMARIES

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4	22	100.0	22	4	US-09-820-484-3	Sequence 3, Appl
5	22	100.0	22	4	US-09-774-403A-1	Sequence 1, Appl
6	22	100.0	22	4	US-09-296-477-2	Sequence 2, Appl
7	22	100.0	22	4	US-09-308-036A-1	Sequence 1, Appl
8	22	100.0	22	4	US-09-791-500-1	Sequence 1, Appl
9	22	100.0	22	4	US-09-565-906-2	Sequence 2, Appl
10	21	95.5	22	4	US-09-296-477-15	Sequence 15, Appl
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12	20.4	92.7	22	4	US-09-820-484-2	Sequence 2, Appl
13	20.4	92.7	22	4	US-09-820-484-6	Sequence 6, Appl
14	20.4	92.7	22	4	US-09-774-403A-2	Sequence 1, Appl
15	20.4	92.7	22	4	US-09-296-477-1	Sequence 1, Appl
16	20.4	92.7	22	4	US-09-296-477-5	Sequence 5, Appl
17	20.4	92.7	22	4	US-09-296-477-6	Sequence 6, Appl
18	20.4	92.7	22	4	US-09-791-500-5	Sequence 5, Appl
19	20.4	92.7	22	4	US-09-791-500-6	Sequence 6, Appl
20	20.4	92.7	22	4	US-09-791-500-6	Sequence 6, Appl
21	20	90.9	22	4	US-09-296-477-16	Sequence 16, Appl
22	19.4	88.2	22	4	US-09-296-477-12	Sequence 12, Appl
23	18.8	85.5	22	3	US-09-092-314-3	Sequence 3, Appl
24	18.8	85.5	22	3	US-09-092-314-3	Sequence 10, Appl
25	18.8	85.5	22	3	US-09-092-314-3	Sequence 20, Appl
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C 107	12.4	56.4	20 4	US-09-325-193A-91	Sequence 91, Appl	180	12	54.5	73 3	US-08-945-909-27	Sequence 27, Appl
C 108	12.4	56.4	22 4	US-09-180-245-18	Sequence 18, Appl	181	12	54.5	73 3	US-09-396-002A-27	Sequence 27, Appl
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C 133	12.2	55.5	25 4	US-09-827-998-909	Sequence 909, App	206	11.8	53.6	25 4	US-09-358-055B-30	Sequence 30, Appl
C 134	12.2	55.5	25 4	US-09-827-998-910	Sequence 910, App	207	11.8	53.6	25 4	US-09-893-238-29	Sequence 29, Appl
C 135	12.2	55.5	25 4	US-09-827-998-911	Sequence 911, App	208	11.8	53.6	32 4	US-09-837-664-4	Sequence 4, Appl
C 136	12.2	55.5	25 4	US-09-827-998-912	Sequence 912, App	209	11.8	53.6	36 3	US-08-721-458B-6	Sequence 66, Appl
C 137	12.2	55.5	25 4	US-09-827-998-913	Sequence 913, App	210	11.8	53.6	40 2	US-08-282-197C-48	Sequence 48, Appl
C 138	12.2	55.5	25 4	US-09-827-998-914	Sequence 914, App	211	11.8	53.6	47 4	US-09-837-664-3	Sequence 3, Appl
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C 140	12.2	55.5	26 4	US-09-827-998-916	Sequence 916, App	213	11.8	53.6	66 2	US-08-485-885-63	Sequence 63, Appl
C 141	12.2	55.5	26 4	US-09-530-378A-15	Sequence 15, Appl	214	11.8	53.6	66 4	US-09-513-999C-34566	Sequence 34566, A
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C 144	12.2	55.5	29 4	US-09-879-919-10	Sequence 10, Appl	217	11.8	53.6	77 2	US-08-233-012C-36	Sequence 36, Appl
C 145	12.2	55.5	47 4	US-09-641-638-721	Sequence 721, App	218	11.8	53.6	77 4	US-09-860-474-36	Sequence 36, Appl
C 146	12.2	55.5	47 4	US-09-641-638-948	Sequence 948, App	219	11.8	53.6	86 2	US-08-710-134-64	Sequence 64, Appl
C 147	12.2	55.5	47 4	US-10-170-097-721	Sequence 721, App	220	11.8	53.6	86 2	US-08-485-885-64	Sequence 64, Appl
C 148	12.2	55.5	47 4	US-10-170-097-948	Sequence 948, App	221	11.8	53.6	86 2	US-09-513-999C-12417	Sequence 12417, A
C 149	12.2	55.5	51 4	US-09-443-199C-99	Sequence 99, Appl	222	11.6	52.7	19 4	US-09-696-791-1526	Sequence 1526, Ap
C 150	12.2	55.5	51 4	US-09-443-199C-101	Sequence 101, App	223	11.6	52.7	21 4	US-08-729-955A-29	Sequence 6091, Ap
C 151	12.2	55.5	60 4	US-09-270-767-26911	Sequence 26911, A	224	11.6	52.7	21 4	US-09-422-978-6091	Sequence 6, Appl
C 152	12.2	55.5	87 3	US-08-976-413A-335	Sequence 325, App	225	11.6	52.7	27 3	US-08-686-993A-6	Sequence 6, Appl
C 153	12.2	55.5	88 4	US-09-270-767-27276	Sequence 27276, A	226	11.6	52.7	28 2	US-08-308-995-19	Sequence 19, Appl
C 154	12.2	55.5	93 1	US-08-210-222-35	Sequence 35, Appl	227	11.6	52.7	28 3	US-09-124-141-28	Sequence 28, Appl
C 155	12.2	55.5	97 5	PCT-US94-06456-15	Sequence 15, Appl	228	11.6	52.7	29 4	US-09-304-223-315	Sequence 315, App
C 156	12.2	55.5	97 5	PCT-US94-06456-26	Sequence 26, Appl	229	11.6	52.7	34 3	US-09-023-221A-12	Sequence 12, Appl
C 157	12.2	55.5	97 5	PCT-US94-06456-55	Sequence 55, Appl	230	11.6	52.7	34 3	US-09-282-352A-12	Sequence 12, Appl
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C 159	12.2	55.5	98 1	US-08-210-222-16	Sequence 16, Appl	232	11.6	52.7	35 5	PCT-US95-09195-1	Sequence 1, Appl
C 160	12.2	55.5	98 1	US-08-210-222-26	Sequence 26, Appl	233	11.6	52.7	36 1	US-07-744-289C-19	Sequence 19, Appl
C 161	12.2	55.5	98 1	US-08-210-222-27	Sequence 27, Appl	234	11.6	52.7	36 5	PCT-US92-06811A-19	Sequence 19, Appl
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C 163	12.2	55.5	20 4	US-09-307-843-15	Sequence 15, Appl	236	11.6	52.7	42 3	US-08-935-312-15	Sequence 15, Appl
C 164	12	54.5	22 4	US-09-180-245-4	Sequence 4, Appl	237	11.6	52.7	42 4	US-09-318-138-15	Sequence 15, Appl
C 165	12	54.5	22 4	US-09-180-245-6	Sequence 6, Appl	238	11.6	52.7	44 1	US-08-242-403A-34	Sequence 34, Appl
C 166	12	54.5	22 4	US-09-180-245-10	Sequence 10, Appl	239	11.6	52.7	44 1	US-08-774-128-34	Sequence 34, Appl
C 167	12	54.5	22 4	US-09-180-245-12	Sequence 12, Appl	240	11.6	52.7	44 5	PCT-US95-05602-34	Sequence 34, Appl
C 168	12	54.5	39 4	US-09-223-139-4	Sequence 4, Appl	241	11.6	52.7	44 5	PCT-US95-05816-34	Sequence 34, Appl
C 169	12	54.5	42 2	US-08-479-275D-49	Sequence 49, Appl	242	11.6	52.7	45 3	US-08-997-918-16	Sequence 16, Appl
C 170	12	54.5	42 2	US-08-488-271B-49	Sequence 49, Appl	243	11.6	52.7	45 3	US-08-997-918-19	Sequence 19, Appl
C 171	12	54.5	43 2	US-08-701-339-12	Sequence 12, Appl	244	11.6	52.7	51 1	US-07-972-032-22	Sequence 22, Appl
C 172	12	54.5	55 4	US-09-746-359A-31	Sequence 31, Appl	245	11.6	52.7	51 1	US-08-175-155-55	Sequence 55, Appl
C 173	12	54.5	55 4	US-09-513-999C-15133	Sequence 15133, A	246	11.6	52.7	51 1	US-08-477-509B-90	Sequence 90, Appl

247	11.6	52.7	51	1	US-08-642-255-36	Sequence 36, Appl	320	11.4	51.8	57	4	US-08-956-171E-1856	Sequence 1856, Ap
248	11.6	52.7	51	2	US-08-707-237A-62	Sequence 62, Appl	321	11.4	51.8	57	4	US-08-781-986A-1856	Sequence 1856, Ap
249	11.6	52.7	51	3	US-09-444-791A-90	Sequence 90, Appl	322	11.4	51.8	59	2	US-08-561-582A-28	Sequence 28, Appl
250	11.6	52.7	54	1	US-08-841-178-3	Sequence 3, Appl1	323	11.4	51.8	59	5	PCT-US95-01219-28	Sequence 28, Appl
251	11.6	52.7	60	2	US-08-009-265-17	Sequence 17, Appl	324	11.4	51.8	60	5	PCT-US93-04950-4	Sequence 4, Appl1
252	11.6	52.7	75	1	US-08-009-265-42	Sequence 42, Appl	325	11.4	51.8	62	4	US-09-270-767-29461	Sequence 29461, A
253	11.6	52.7	75	1	US-08-442-572-44	Sequence 44, Appl	326	11.4	51.8	69	4	US-09-513-999C-22286	Sequence 22286, A
254	11.6	52.7	75	1	US-08-461-795-44	Sequence 44, Appl	327	11.4	51.8	71	3	US-09-363-939A-47	Sequence 47, Appl
255	11.6	52.7	75	2	US-08-322-679-10	Sequence 10, Appl	328	11.4	51.8	71	4	US-09-791-301-47	Sequence 47, Appl
256	11.6	52.7	75	3	US-08-686-993A-22	Sequence 22, Appl	329	11.4	51.8	75	4	US-09-792-024-366	Sequence 366, App
257	11.6	52.7	75	5	PCT-US95-05600-127	Sequence 127, App	330	11.4	51.8	75	4	US-09-792-024-366	Sequence 366, App
258	11.6	52.7	76	5	US-08-447-169A-111	Sequence 111, App	331	11.4	51.8	76	1	US-08-399-412A-20	Sequence 20, Appl
259	11.6	52.7	76	2	US-08-233-012C-111	Sequence 111, App	332	11.4	51.8	76	1	US-08-399-412A-21	Sequence 21, Appl
260	11.6	52.7	76	4	US-09-660-474-111	Sequence 111, App	333	11.4	51.8	76	1	US-08-399-412A-22	Sequence 22, Appl
261	11.6	52.7	77	3	US-09-364-539-101	Sequence 101, App	334	11.4	51.8	76	1	US-08-399-412A-25	Sequence 25, Appl
262	11.6	52.7	83	3	US-08-704-856C-14	Sequence 14, Appl	335	11.4	51.8	76	1	US-08-399-412A-26	Sequence 26, Appl
263	11.6	52.7	93	4	US-09-242-981-14	Sequence 14, Appl	336	11.4	51.8	76	1	US-08-399-412A-27	Sequence 27, Appl
264	11.6	52.7	90	4	US-08-631-200-46	Sequence 46, Appl	337	11.4	51.8	76	1	US-08-399-412A-28	Sequence 28, Appl
265	11.6	52.7	90	1	US-08-829-553-46	Sequence 46, Appl	338	11.4	51.8	76	1	US-08-399-412A-30	Sequence 30, Appl
266	11.6	52.7	90	2	US-08-922-267A-46	Sequence 46, Appl	339	11.4	51.8	76	1	US-08-447-169A-31	Sequence 31, Appl
267	11.6	52.7	90	2	US-08-936-707A-46	Sequence 46, Appl	340	11.4	51.8	76	1	US-08-447-169A-112	Sequence 112, App
268	11.6	52.7	90	2	US-08-936-706A-46	Sequence 46, Appl	341	11.4	51.8	76	2	US-08-233-012C-31	Sequence 31, Appl
269	11.6	52.7	90	3	US-09-248-203-46	Sequence 46, Appl	342	11.4	51.8	76	2	US-08-233-012C-112	Sequence 112, App
270	11.6	52.7	90	3	US-09-406-071-46	Sequence 46, Appl	343	11.4	51.8	76	4	US-09-860-474-31	Sequence 31, Appl
271	11.6	52.7	90	4	US-09-814-986-46	Sequence 46, Appl	344	11.4	51.8	76	4	US-09-860-474-112	Sequence 112, App
272	11.6	52.7	96	4	US-09-759-112A-16	Sequence 16, Appl	345	11.4	51.8	77	1	US-08-463-039A-9	Sequence 9, Appl1
273	11.6	52.7	97	4	US-08-210-222-12	Sequence 12, Appl	346	11.4	51.8	77	1	US-08-463-039A-9	Sequence 9, Appl1
274	11.6	52.7	97	5	PCT-US92-06821A-21	Sequence 21, Appl	347	11.4	51.8	77	1	US-08-447-169A-22	Sequence 22, Appl
275	11.6	52.7	98	1	US-08-210-222-21	Sequence 21, Appl	348	11.4	51.8	77	1	US-08-447-169A-39	Sequence 39, Appl
276	11.6	52.7	98	1	PCT-US94-08456-25	Sequence 25, Appl	349	11.4	51.8	77	2	US-08-233-012C-22	Sequence 22, Appl
277	11.6	52.7	98	5	PCT-US94-06456-54	Sequence 54, Appl	350	11.4	51.8	77	2	US-08-233-012C-39	Sequence 39, Appl
278	11.6	52.7	99	1	US-08-530-592-24	Sequence 24, Appl	351	11.4	51.8	77	2	US-08-460-888A-9	Sequence 9, Appl1
279	11.6	52.7	99	1	US-08-714-991-24	Sequence 24, Appl	352	11.4	51.8	77	2	US-08-477-527A-212	Sequence 212, App
280	11.4	51.8	20	4	US-08-754-477A-62	Sequence 62, Appl	353	11.4	51.8	77	2	US-08-477-527A-239	Sequence 239, App
281	11.4	51.8	24	3	US-09-468-872-35	Sequence 35, Appl	354	11.4	51.8	77	2	US-08-894-578-9	Sequence 9, Appl1
282	11.4	51.8	26	2	US-08-450-905B-161	Sequence 161, App	355	11.4	51.8	77	3	US-08-481-710-212	Sequence 212, App
283	11.4	51.8	26	3	US-07-982-759F-161	Sequence 161, App	356	11.4	51.8	77	3	US-08-481-710-239	Sequence 239, App
284	11.4	51.8	27	1	US-08-977-818-7	Sequence 7, Appl1	357	11.4	51.8	77	3	US-09-412-017-9	Sequence 9, Appl1
285	11.4	51.8	27	1	US-08-977-818-8	Sequence 8, Appl1	358	11.4	51.8	77	4	US-09-578-634A-7	Sequence 7, Appl
286	11.4	51.8	27	2	US-08-670-274B-7	Sequence 7, Appl1	359	11.4	51.8	77	4	US-09-860-474-22	Sequence 22, Appl
287	11.4	51.8	27	2	US-08-670-274B-8	Sequence 8, Appl1	360	11.4	51.8	77	4	US-09-860-474-39	Sequence 39, Appl
288	11.4	51.8	27	3	US-09-146-187-7	Sequence 7, Appl1	361	11.4	51.8	77	5	PCT-US96-09537-212	Sequence 212, App
289	11.4	51.8	27	3	US-09-146-187-8	Sequence 8, Appl1	362	11.4	51.8	77	5	PCT-US96-09537-239	Sequence 239, App
290	11.4	51.8	27	4	US-09-930-803-4	Sequence 4, Appl1	363	11.4	51.8	79	4	US-09-513-999C-23791	Sequence 23791, A
291	11.4	51.8	30	3	US-09-370-542-169	Sequence 169, App	364	11.4	51.8	85	4	US-09-612-31A-3	Sequence 3, Appl1
292	11.4	51.8	30	3	US-09-370-542-170	Sequence 170, App	365	11.4	51.8	85	4	US-09-612-31A-4	Sequence 4, Appl1
293	11.4	51.8	31	3	US-09-043-239-13	Sequence 13, Appl	366	11.4	51.8	87	2	US-08-566-216-3	Sequence 3, Appl1
294	11.4	51.8	31	4	US-09-230-405-16	Sequence 16, Appl	367	11.4	51.8	87	2	US-08-477-527A-177	Sequence 177, App
295	11.4	51.8	31	4	US-09-495-901-13	Sequence 13, Appl	368	11.4	51.8	87	3	US-08-481-710-177	Sequence 177, App
296	11.4	51.8	32	3	US-08-938-835A-62	Sequence 62, Appl	369	11.4	51.8	87	5	PCT-US96-09537-177	Sequence 177, App
297	11.4	51.8	34	1	US-08-640-378-20	Sequence 20, Appl	370	11.4	51.8	90	4	US-09-578-634A-7	Sequence 7, Appl
298	11.4	51.8	35	1	US-08-403-762A-159	Sequence 159, App	371	11.4	51.8	91	4	US-09-578-634A-6	Sequence 6, Appl1
299	11.4	51.8	36	1	US-07-640-029-11	Sequence 11, Appl	372	11.4	51.8	91	4	US-09-578-634A-8	Sequence 8, Appl1
300	11.4	51.8	36	1	US-07-921-807B-17	Sequence 17, Appl	373	11.4	51.8	99	4	US-09-270-767-25925	Sequence 25925, A
301	11.4	51.8	36	3	US-08-441-944A-17	Sequence 17, Appl	374	11.2	50.9	16	5	PCT-US94-06456-60	Sequence 60, Appl
302	11.4	51.8	36	3	US-08-491-954-52	Sequence 52, Appl	375	11.2	50.9	17	4	US-09-827-998-92	Sequence 92, Appl
303	11.4	51.8	37	3	US-08-439-992A-11	Sequence 11, Appl	376	11.2	50.9	17	4	US-09-827-998-94	Sequence 94, Appl
304	11.4	51.8	37	4	US-09-574-873-5	Sequence 5, Appl1	377	11.2	50.9	19	6	5510474-12	Patent No. 5510474
305	11.4	51.8	38	2	US-08-836-222-5	Sequence 5, Appl1	378	11.2	50.9	20	4	US-09-198-452A-4689	Sequence 4689, Ap
306	11.4	51.8	39	1	US-08-292-892-1	Sequence 1, Appl1	379	11.2	50.9	22	1	US-08-242-403A-38	Sequence 38, Appl
307	11.4	51.8	39	1	US-08-459-890-1	Sequence 1, Appl1	380	11.2	50.9	22	1	US-08-774-128-38	Sequence 38, Appl
308	11.4	51.8	39	3	US-08-214-994-1	Sequence 1, Appl1	381	11.2	50.9	22	5	PCT-US95-05602-38	Sequence 38, Appl
309	11.4	51.8	39	3	US-09-039-021-1	Sequence 1, Appl1	382	11.2	50.9	22	5	PCT-US95-05816-38	Sequence 38, Appl
310	11.4	51.8	39	5	PCT-US93-01338-1	Sequence 1, Appl1	383	11.2	50.9	23	4	US-09-404-641-82	Sequence 82, Appl
311	11.4	51.8	42	4	US-08-999-412A-103	Sequence 103, App	384	11.2	50.9	23	4	US-10-414-168-82	Sequence 82, Appl
312	11.4	51.8	43	4	US-09-916-228-23	Sequence 23, Appl	385	11.2	50.9	24	2	US-08-702-105A-36	Sequence 36, Appl
313	11.4	51.8	48	1	US-08-399-412A-105	Sequence 105, App	386	11.2	50.9	24	3	US-08-702-105A-36	Sequence 36, Appl
314	11.4	51.8	48	1	US-08-264-861A-6	Sequence 6, Appl1	387	11.2	50.9	24	3	US-09-325-571-36	Sequence 36, Appl
315	11.4	51.8	48	5	PCT-US95-07784-6	Sequence 6, Appl1	388	11.2	50.9	24	1	US-09-848-588-36	Sequence 36, Appl
316	11.4	51.8	50	4	US-09-702-029-5	Sequence 5, Appl1	389	11.2	50.9	25	4	US-08-419-099-43	Sequence 43, Appl
317	11.4	51.8	55	1	US-08-243-870-16	Sequence 16, Appl	390	11.2	50.9	25	3	US-08-938-548B-20	Sequence 20, Appl
318	11.4	51.8	55	1	US-08-409-439A-16	Sequence 16, Appl	391	11.2	50.9	25	3	US-09-177-349-6	Sequence 40, Appl
319	11.4	51.8	55	4	US-09-270-767-29014	Sequence 29014, A	392	11.2	50.9	25	3	US-08-939-095A-20	Sequence 20, Appl

393	11.2	50.9	25	4	US-09-178-098A-1	Sequence 1, Appl1	466	11.2	50.9	38	1	US-08-467-607-19	Sequence 19, Appl
394	11.2	50.9	25	4	US-09-230-378A-3	Sequence 3, Appl1	467	11.2	50.9	38	1	US-08-338-057-7	Sequence 7, Appl1
395	11.2	50.9	25	4	US-09-827-998-907	Sequence 907, App	468	11.2	50.9	38	1	US-08-484-570A-7	Sequence 7, Appl1
396	11.2	50.9	25	4	US-09-827-998-917	Sequence 917, App	469	11.2	50.9	38	1	US-08-508-448C-13	Sequence 13, Appl
397	11.2	50.9	25	4	US-09-211-823C-20	Sequence 20, Appl	470	11.2	50.9	38	1	US-08-605-672-44	Sequence 44, Appl
398	11.2	50.9	25	4	US-09-737-379A-20	Sequence 20, Appl	471	11.2	50.9	38	1	US-08-444-733-134	Sequence 134, App
399	11.2	50.9	25	4	US-09-043-861-12	Sequence 12, Appl	472	11.2	50.9	38	2	US-08-482-293A-44	Sequence 44, Appl
400	11.2	50.9	25	5	PCT-US95-04567-19	Sequence 19, Appl	473	11.2	50.9	38	2	US-08-943-363-44	Sequence 44, Appl
401	11.2	50.9	27	1	US-08-222-124-8	Sequence 8, Appl1	474	11.2	50.9	38	2	US-08-668-416-7	Sequence 7, Appl1
402	11.2	50.9	27	2	US-08-842-657A-8	Sequence 8, Appl1	475	11.2	50.9	38	2	US-08-464-134-14	Sequence 134, App
403	11.2	50.9	28	3	US-08-938-548B-19	Sequence 19, Appl	476	11.2	50.9	38	2	US-08-469-362-19	Sequence 19, Appl
404	11.2	50.9	28	3	US-08-939-093A-19	Sequence 19, Appl	477	11.2	50.9	38	2	US-08-203-532F-12	Sequence 12, Appl
405	11.2	50.9	28	4	US-09-211-823C-19	Sequence 19, Appl	478	11.2	50.9	38	2	US-08-461-361-134	Sequence 134, App
406	11.2	50.9	28	4	US-09-337-379A-19	Sequence 19, Appl	479	11.2	50.9	38	2	US-08-715-568A-12	Sequence 12, Appl
407	11.2	50.9	30	1	US-08-640-378-5	Sequence 5, Appl1	480	11.2	50.9	38	2	US-08-850-392-19	Sequence 19, Appl
408	11.2	50.9	31	4	US-09-086-121-2	Sequence 2, Appl1	481	11.2	50.9	38	2	US-08-485-910-134	Sequence 134, App
409	11.2	50.9	31	4	US-09-043-861-9	Sequence 9, Appl1	482	11.2	50.9	38	2	US-08-933-149-10	Sequence 10, Appl
410	11.2	50.9	32	2	US-08-787-902A-7	Sequence 7, Appl1	483	11.2	50.9	38	2	US-09-082-343-10	Sequence 10, Appl
411	11.2	50.9	32	3	US-08-829-525-27	Sequence 7, Appl	484	11.2	50.9	38	3	US-09-082-253-10	Sequence 10, Appl
412	11.2	50.9	32	3	US-08-609-583A-27	Sequence 27, Appl	485	11.2	50.9	38	3	US-09-090-947-6	Sequence 6, Appl1
413	11.2	50.9	32	3	US-09-177-349-7	Sequence 7, Appl1	486	11.2	50.9	38	3	US-08-918-190-3	Sequence 3, Appl1
414	11.2	50.9	32	3	US-08-937-399-27	Sequence 27, Appl	487	11.2	50.9	38	3	US-09-234-233-3	Sequence 3, Appl1
415	11.2	50.9	32	4	US-09-310-367-27	Sequence 27, Appl	488	11.2	50.9	38	3	US-09-193-043-44	Sequence 44, Appl
416	11.2	50.9	32	4	US-09-032-337-27	Sequence 27, Appl	489	11.2	50.9	38	3	US-09-078-465-12	Sequence 12, Appl
417	11.2	50.9	32	4	US-09-178-098A-2	Sequence 27, Appl1	490	11.2	50.9	38	4	US-09-688-307A-14	Sequence 44, Appl
418	11.2	50.9	32	4	US-09-664-231-27	Sequence 27, Appl	491	11.2	50.9	38	4	US-09-162-622-10	Sequence 10, Appl
419	11.2	50.9	35	1	US-08-158-682A-8	Sequence 8, Appl1	492	11.2	50.9	38	4	US-09-350-259-44	Sequence 44, Appl
420	11.2	50.9	35	1	US-07-744-282C-110	Sequence 110, App	493	11.2	50.9	38	4	US-09-509-015-10	Sequence 10, Appl
421	11.2	50.9	35	1	US-08-464-164-6	Sequence 6, Appl1	494	11.2	50.9	38	4	US-09-269-921-77	Sequence 77, Appl
422	11.2	50.9	35	1	US-08-455-896-9	Sequence 9, Appl1	495	11.2	50.9	38	5	PCT-US96-08235-10	Sequence 10, Appl
423	11.2	50.9	35	1	US-08-325-562-9	Sequence 9, Appl1	496	11.2	50.9	38	5	PCT-US96-09927-3	Sequence 3, Appl1
424	11.2	50.9	35	1	US-08-437-795-9	Sequence 9, Appl1	497	11.2	50.9	41	1	US-08-333-894-1	Sequence 1, Appl1
425	11.2	50.9	35	1	US-08-466-033-174	Sequence 174, App	498	11.2	50.9	42	3	US-09-564-805-14	Sequence 144, App
426	11.2	50.9	35	1	US-08-467-607-18	Sequence 18, Appl	499	11.2	50.9	43	3	US-08-732-708C-5	Sequence 5, Appl1
427	11.2	50.9	35	1	US-08-338-057-6	Sequence 6, Appl1	500	11.2	50.9	46	4	US-09-936-572-62	Sequence 62, Appl
428	11.2	50.9	35	1	US-08-508-448C-12	Sequence 12, Appl	501	11.2	50.9	46	4	US-09-936-572-63	Sequence 63, Appl
429	11.2	50.9	35	1	US-08-444-733-174	Sequence 174, App	502	11.2	50.9	46	4	US-09-936-572-64	Sequence 64, Appl
430	11.2	50.9	35	2	US-08-668-416-6	Sequence 6, Appl1	503	11.2	50.9	46	4	US-09-936-572-65	Sequence 65, Appl
431	11.2	50.9	35	2	US-08-664-134-174	Sequence 174, App	504	11.2	50.9	46	4	US-09-936-572-66	Sequence 66, Appl
432	11.2	50.9	35	2	US-08-469-362-18	Sequence 18, Appl	505	11.2	50.9	46	4	US-09-936-572-67	Sequence 67, Appl
433	11.2	50.9	35	2	US-08-461-361-174	Sequence 174, App	506	11.2	50.9	46	4	US-09-936-572-68	Sequence 68, Appl
434	11.2	50.9	35	2	US-08-715-568A-10	Sequence 10, Appl	507	11.2	50.9	46	4	US-09-936-572-69	Sequence 69, Appl
435	11.2	50.9	35	2	US-08-850-392-18	Sequence 18, Appl	508	11.2	50.9	46	4	US-09-936-572-70	Sequence 70, Appl
436	11.2	50.9	35	2	US-08-85-910-174	Sequence 174, App	509	11.2	50.9	46	4	US-09-936-572-71	Sequence 71, Appl
437	11.2	50.9	35	2	US-08-933-149-9	Sequence 9, Appl1	510	11.2	50.9	46	4	US-09-936-572-72	Sequence 72, Appl
438	11.2	50.9	35	2	US-09-082-343-9	Sequence 9, Appl1	511	11.2	50.9	46	4	US-09-936-572-73	Sequence 73, Appl
439	11.2	50.9	35	3	US-09-082-253-9	Sequence 8, Appl1	512	11.2	50.9	47	4	US-09-422-978-1375	Sequence 1375, Ap
440	11.2	50.9	35	3	US-09-177-349-8	Sequence 8, Appl1	513	11.2	50.9	49	4	US-09-936-572-49	Sequence 49, Appl
441	11.2	50.9	35	4	US-09-178-098A-3	Sequence 3, Appl1	514	11.2	50.9	50	2	US-08-827-116-8	Sequence 8, Appl1
442	11.2	50.9	35	4	US-09-162-622-9	Sequence 9, Appl1	515	11.2	50.9	50	2	US-08-827-116-9	Sequence 9, Appl1
443	11.2	50.9	35	4	US-09-509-015-9	Sequence 9, Appl1	516	11.2	50.9	50	3	US-08-827-117-8	Sequence 8, Appl1
444	11.2	50.9	35	4	US-09-043-861-10	Sequence 10, Appl	517	11.2	50.9	50	3	US-08-827-117-9	Sequence 9, Appl1
445	11.2	50.9	35	5	PCT-US92-06821A-56	Sequence 56, Appl	518	11.2	50.9	53	1	US-08-207-547A-10	Sequence 10, Appl
446	11.2	50.9	35	5	PCT-US96-08235-9	Sequence 9, Appl1	519	11.2	50.9	53	1	US-08-215-082-11	Sequence 10, Appl
447	11.2	50.9	36	1	US-08-403-762A-153	Sequence 153, App	520	11.2	50.9	53	1	US-08-702-652-10	Sequence 10, Appl
448	11.2	50.9	36	4	US-09-230-378A-1	Sequence 1, Appl1	521	11.2	50.9	60	1	US-08-207-547A-27	Sequence 27, Appl
449	11.2	50.9	36	4	US-09-926-492-4	Sequence 4, Appl1	522	11.2	50.9	60	1	US-08-215-082-27	Sequence 27, Appl
450	11.2	50.9	37	1	US-08-428-733A-6	Sequence 6, Appl1	523	11.2	50.9	60	2	US-08-702-652-27	Sequence 27, Appl
451	11.2	50.9	37	1	US-08-428-733A-36	Sequence 36, Appl	524	11.2	50.9	61	1	US-07-744-282C-111	Sequence 111, App
452	11.2	50.9	37	1	US-08-428-733A-37	Sequence 37, Appl	525	11.2	50.9	61	5	PCT-US92-06821A-57	Sequence 57, Appl
453	11.2	50.9	38	1	US-08-158-682A-9	Sequence 9, Appl1	526	11.2	50.9	63	4	US-09-936-572-47	Sequence 47, Appl
454	11.2	50.9	38	1	US-08-286-889-44	Sequence 44, Appl1	527	11.2	50.9	64	3	US-08-892-747-26	Sequence 26, Appl
455	11.2	50.9	38	1	US-08-337-268A-7	Sequence 7, Appl1	528	11.2	50.9	64	3	US-08-892-747-28	Sequence 28, Appl
456	11.2	50.9	38	1	US-08-464-164-7	Sequence 7, Appl1	529	11.2	50.9	66	4	US-09-270-767-25781	Sequence 25781, A
457	11.2	50.9	38	1	US-08-455-896-10	Sequence 10, Appl	530	11.2	50.9	66	4	US-09-936-572-48	Sequence 48, Appl
458	11.2	50.9	38	1	US-08-325-562-10	Sequence 10, Appl	531	11.2	50.9	67	4	US-09-270-767-27316	Sequence 27316, A
459	11.2	50.9	38	1	US-08-368-281-5	Sequence 5, Appl1	532	11.2	50.9	67	4	US-09-926-492-3	Sequence 3, Appl1
460	11.2	50.9	38	1	US-08-485-618-44	Sequence 44, Appl1	533	11.2	50.9	70	1	US-08-207-547A-8	Sequence 8, Appl1
461	11.2	50.9	38	1	US-08-437-795-10	Sequence 10, Appl	534	11.2	50.9	70	1	US-08-215-082-8	Sequence 8, Appl1
462	11.2	50.9	38	1	US-08-480-662-3	Sequence 3, Appl1	535	11.2	50.9	70	2	US-08-702-652-8	Sequence 8, Appl1
463	11.2	50.9	38	1	US-08-358-171-6	Sequence 6, Appl1	536	11.2	50.9	71	1	US-08-207-547A-5	Sequence 5, Appl1
464	11.2	50.9	38	1	US-08-466-033-134	Sequence 134, App	537	11.2	50.9	71	1	US-08-215-082-5	Sequence 5, Appl1
465	11.2	50.9	38	1	US-08-362-652-44	Sequence 44, Appl	538	11.2	50.9	71	2	US-08-702-652-5	Sequence 5, Appl1

539	11.2	50.9	77 1	US-08-477-530-19	Sequence 19, Appl	612	11	50.0	24 1	US-08-620-467A-52	Sequence 52, Appl
540	11.2	50.9	77 1	US-08-477-530-20	Sequence 20, Appl	613	11	50.0	24 1	US-08-348-572-53	Sequence 53, Appl
541	11.2	50.9	77 1	US-08-477-530-19	Sequence 19, Appl	614	11	50.0	24 2	US-08-437-352A-85	Sequence 85, Appl
542	11.2	50.9	77 1	US-08-477-530-20	Sequence 20, Appl	615	11	50.0	24 3	US-08-445-463B-44	Sequence 44, Appl
543	11.2	50.9	77 1	US-08-477-830-19	Sequence 19, Appl	616	11	50.0	24 3	US-08-559-205-56	Sequence 56, Appl
544	11.2	50.9	77 1	US-08-477-830-20	Sequence 20, Appl	617	11	50.0	24 3	US-08-445-466C-44	Sequence 44, Appl
545	11.2	50.9	77 2	US-08-477-527A-252	Sequence 252, App	618	11	50.0	24 3	US-09-041-090B-53	Sequence 53, Appl
546	11.2	50.9	77 3	US-08-481-710-252	Sequence 252, App	619	11	50.0	24 4	US-08-044-857D-48	Sequence 48, Appl
547	11.2	50.9	77 5	PCT-US96-09537-252	Sequence 252, App	620	11	50.0	24 4	US-08-997-688A-27	Sequence 27, Appl
548	11.2	50.9	78 1	US-08-477-530-18	Sequence 18, Appl	621	11	50.0	24 4	US-08-997-688A-33	Sequence 33, Appl
549	11.2	50.9	78 1	US-08-477-530-18	Sequence 18, Appl	622	11	50.0	24 4	US-08-442-001C-52	Sequence 52, Appl
550	11.2	50.9	78 2	US-08-477-830-18	Sequence 18, Appl	623	11	50.0	24 4	US-09-786-256C-19	Sequence 19, Appl
551	11.2	50.9	87 2	US-08-477-527A-115	Sequence 115, App	624	11	50.0	24 4	US-09-086-436-15	Sequence 15, Appl
552	11.2	50.9	87 2	US-08-477-527A-200	Sequence 200, App	625	11	50.0	24 4	US-09-086-436-21	Sequence 21, Appl
553	11.2	50.9	87 3	US-08-481-710-115	Sequence 115, App	626	11	50.0	24 4	US-09-086-436-27	Sequence 27, Appl
554	11.2	50.9	87 3	US-08-481-710-200	Sequence 200, App	627	11	50.0	24 5	PCT-US94-03437-14	Sequence 44, Appl
555	11.2	50.9	87 5	PCT-US96-09537-115	Sequence 115, App	628	11	50.0	26 1	US-08-403-762A-144	Sequence 144, App
556	11.2	50.9	87 5	PCT-US96-09537-200	Sequence 200, App	629	11	50.0	29 3	US-09-342-143-9	Sequence 9, Appl
557	11.2	50.9	94 3	US-08-976-413A-401	Sequence 401, App	630	11	50.0	29 4	US-09-924-433-9	Sequence 9, Appl
558	11.2	50.9	95 5	PCT-US94-06456-22	Sequence 22, Appl	631	11	50.0	30 4	US-08-948-113D-26	Sequence 26, Appl
559	11.2	50.9	95 5	PCT-US94-06456-51	Sequence 51, Appl	632	11	50.0	30 4	US-09-937-833-22	Sequence 22, Appl
560	11.2	50.9	96 5	US-08-210-222-20	Sequence 20, Appl	633	11	50.0	34 2	US-08-472-719-3	Sequence 3, Appl
561	11.2	50.9	96 5	PCT-US94-06456-23	Sequence 23, Appl	634	11	50.0	34 3	US-08-961-083-448	Sequence 448, App
562	11.2	50.9	96 5	PCT-US94-06456-29	Sequence 29, Appl	635	11	50.0	34 3	US-09-115-475-2	Sequence 2, Appl
563	11.2	50.9	96 5	PCT-US94-06456-52	Sequence 52, Appl	636	11	50.0	34 4	US-09-536-784-448	Sequence 448, App
564	11.2	50.9	96 5	PCT-US94-06456-58	Sequence 58, Appl	637	11	50.0	36 2	US-08-612-840A-14	Sequence 14, Appl
565	11.2	50.9	97 1	US-08-210-222-15	Sequence 15, Appl	638	11	50.0	37 2	US-09-060-288-5	Sequence 5, Appl
566	11.2	50.9	97 1	US-08-210-222-17	Sequence 17, Appl	639	11	50.0	37 3	US-08-872-571A-5	Sequence 5, Appl
567	11.2	50.9	97 1	US-08-210-222-18	Sequence 18, Appl	640	11	50.0	37 3	US-08-377-891-5	Sequence 5, Appl
568	11.2	50.9	97 1	US-08-210-222-29	Sequence 29, Appl	641	11	50.0	39 3	US-09-468-872-21	Sequence 21, Appl
569	11.2	50.9	97 5	PCT-US94-06456-12	Sequence 12, Appl	642	11	50.0	40 3	US-08-870-511-35	Sequence 35, Appl
570	11.2	50.9	97 5	PCT-US94-06456-17	Sequence 17, Appl	643	11	50.0	42 3	US-09-237-712-19	Sequence 19, Appl
571	11.2	50.9	97 5	PCT-US94-06456-27	Sequence 27, Appl	644	11	50.0	42 3	US-09-237-712-20	Sequence 20, Appl
572	11.2	50.9	97 5	PCT-US94-06456-41	Sequence 41, Appl	645	11	50.0	45 3	US-08-296-848A-1	Sequence 1, Appl
573	11.2	50.9	97 5	PCT-US94-06456-46	Sequence 46, Appl	646	11	50.0	45 3	US-08-296-848A-4	Sequence 4, Appl
574	11.2	50.9	97 5	PCT-US94-06456-56	Sequence 56, Appl	647	11	50.0	45 4	US-09-342-143-8	Sequence 8, Appl
575	11.2	50.9	98 1	US-08-210-222-5	Sequence 5, Appl	648	11	50.0	45 4	US-09-368-618-1	Sequence 1, Appl
576	11.2	50.9	98 1	US-08-210-222-6	Sequence 6, Appl	649	11	50.0	45 4	US-09-368-618-4	Sequence 4, Appl
577	11.2	50.9	98 1	US-08-210-222-9	Sequence 9, Appl	650	11	50.0	45 4	US-09-365-530-1	Sequence 1, Appl
578	11.2	50.9	98 1	US-08-210-222-10	Sequence 10, Appl	651	11	50.0	45 4	US-09-365-530-4	Sequence 4, Appl
579	11.2	50.9	98 1	US-08-210-222-13	Sequence 13, Appl	652	11	50.0	45 4	US-09-924-433-8	Sequence 8, Appl
580	11.2	50.9	98 1	US-08-210-222-23	Sequence 23, Appl	653	11	50.0	45 4	US-08-374-641-40	Sequence 40, Appl
581	11.2	50.9	98 5	PCT-US94-06456-11	Sequence 11, Appl	654	11	50.0	51 2	US-08-465-380-104	Sequence 104, App
582	11.2	50.9	98 5	PCT-US94-06456-13	Sequence 13, Appl	655	11	50.0	51 2	US-08-480-478-17	Sequence 17, Appl
583	11.2	50.9	98 5	PCT-US94-06456-14	Sequence 14, Appl	656	11	50.0	51 2	US-08-486-397-104	Sequence 104, App
584	11.2	50.9	98 5	PCT-US94-06456-16	Sequence 16, Appl	657	11	50.0	51 2	US-08-486-397-104	Sequence 104, App
585	11.2	50.9	98 5	PCT-US94-06456-18	Sequence 18, Appl	658	11	50.0	51 2	US-08-461-965-104	Sequence 104, App
586	11.2	50.9	98 5	PCT-US94-06456-20	Sequence 20, Appl	659	11	50.0	51 2	US-08-326-110A-17	Sequence 17, Appl
587	11.2	50.9	98 5	PCT-US94-06456-21	Sequence 21, Appl	660	11	50.0	51 2	US-08-634-641-104	Sequence 104, App
588	11.2	50.9	98 5	PCT-US94-06456-24	Sequence 24, Appl	661	11	50.0	51 3	US-09-249-471-104	Sequence 104, App
589	11.2	50.9	98 5	PCT-US94-06456-40	Sequence 40, Appl	662	11	50.0	51 3	US-09-249-471-104	Sequence 104, App
590	11.2	50.9	98 5	PCT-US94-06456-42	Sequence 42, Appl	663	11	50.0	51 3	US-09-249-451-104	Sequence 104, App
591	11.2	50.9	98 5	PCT-US94-06456-43	Sequence 43, Appl	664	11	50.0	51 3	US-08-809-455-104	Sequence 104, App
592	11.2	50.9	98 5	PCT-US94-06456-45	Sequence 45, Appl	665	11	50.0	51 3	US-09-249-461-104	Sequence 104, App
593	11.2	50.9	98 5	PCT-US94-06456-47	Sequence 47, Appl	666	11	50.0	51 3	US-09-249-448-104	Sequence 104, App
594	11.2	50.9	98 5	PCT-US94-06456-49	Sequence 49, Appl	667	11	50.0	51 3	US-09-300-909-9	Sequence 9, Appl
595	11.2	50.9	98 5	PCT-US94-06456-50	Sequence 50, Appl	668	11	50.0	51 4	US-09-702-705-1089	Sequence 1089, App
596	11.2	50.9	99 1	PCT-US94-06456-53	Sequence 53, Appl	669	11	50.0	51 4	US-09-736-457-1089	Sequence 1089, App
597	11.2	50.9	99 1	US-08-207-547A-4	Sequence 4, Appl	670	11	50.0	51 4	US-09-249-473-104	Sequence 104, App
598	11.2	50.9	99 2	US-08-215-082-4	Sequence 4, Appl	671	11	50.0	51 4	US-09-614-124B-1089	Sequence 1089, App
599	11.2	50.9	99 2	US-08-702-652-4	Sequence 4, Appl	672	11	50.0	51 4	US-09-671-325-1089	Sequence 1089, App
600	11.2	50.9	99 5	PCT-US92-06821A-23	Sequence 23, Appl	673	11	50.0	51 4	US-09-658-824-1089	Sequence 1089, App
601	11	50.0	20 1	US-08-437-027-16	Sequence 16, Appl	674	11	50.0	51 4	US-09-913-955A-6	Sequence 6, Appl
602	11	50.0	20 3	US-09-193-377B-33	Sequence 33, Appl	675	11	50.0	52 3	US-09-300-909-10	Sequence 10, Appl
603	11	50.0	20 3	US-09-334-620-3	Sequence 3, Appl	676	11	50.0	52 4	US-09-913-955A-5	Sequence 5, Appl
604	11	50.0	20 4	US-09-198-147B-4	Sequence 4, Appl	677	11	50.0	60 1	US-08-470-958-14	Sequence 14, Appl
605	11	50.0	20 4	US-10-029-517-4	Sequence 4, Appl	678	11	50.0	61 3	US-09-023-228B-78	Sequence 78, Appl
606	11	50.0	21 1	US-07-626-923A-6	Sequence 6, Appl	679	11	50.0	61 3	US-09-023-228B-80	Sequence 80, Appl
607	11	50.0	21 1	US-09-657-472-492	Sequence 492, App	680	11	50.0	61 3	US-09-163-025B-78	Sequence 78, Appl
608	11	50.0	21 4	US-09-657-472-807	Sequence 807, App	681	11	50.0	61 3	US-09-163-025B-80	Sequence 80, Appl
609	11	50.0	21 4	US-09-657-472-807	Sequence 807, App	682	11	50.0	61 4	US-10-037-282-78	Sequence 78, Appl
610	11	50.0	21 4	US-09-657-472-807	Sequence 807, App	683	11	50.0	61 4	US-10-037-282-80	Sequence 80, Appl
611	11	50.0	24 1	US-08-423-383-85	Sequence 85, Appl	684	11	50.0	64 4	US-09-270-767-26870	Sequence 26870, A

685	11	50.0	65	1	US-08-453-104-17	Sequence 17, Appl	C 758	10.8	49.1	20	3	US-08-738-652-18	Sequence 19, Appl
686	11	50.0	65	2	US-08-694-824-17	Sequence 2465, Ap	C 759	10.8	49.1	20	3	US-08-738-652-19	Sequence 20, Appl
C 687	11	50.0	65	4	US-08-956-171E-2465	Sequence 5017, Ap	C 760	10.8	49.1	20	3	US-08-738-652-20	Sequence 21, Appl
C 688	11	50.0	65	4	US-08-956-171E-5017	Sequence 2465, Ap	C 761	10.8	49.1	20	3	US-08-286-098-7	Sequence 7, Appl
C 689	11	50.0	65	4	US-08-781-986A-2465	Sequence 5017, Ap	C 762	10.8	49.1	20	3	US-08-286-098-8	Sequence 8, Appl
C 690	11	50.0	65	4	US-08-781-986A-5017	Sequence 8944, Ap	C 763	10.8	49.1	20	3	US-09-286-098-9	Sequence 9, Appl
C 691	11	50.0	71	4	US-09-270-767-8944	Sequence 24226, A	C 764	10.8	49.1	20	3	US-09-286-098-10	Sequence 10, Appl
C 692	11	50.0	71	4	US-09-270-767-24226	Sequence 20, Appl	C 765	10.8	49.1	20	3	US-09-286-098-37	Sequence 37, Appl
C 693	11	50.0	72	1	US-08-434-001-20	Sequence 54, Appl	C 766	10.8	49.1	20	3	US-09-286-098-40	Sequence 40, Appl
C 694	11	50.0	72	1	US-08-434-001-54	Sequence 20, Appl	C 767	10.8	49.1	20	3	US-08-960-774-15	Sequence 15, Appl
C 695	11	50.0	72	1	US-08-433-585-20	Sequence 54, Appl	C 768	10.8	49.1	20	3	US-08-960-774-17	Sequence 17, Appl
C 696	11	50.0	72	1	US-08-433-585-54	Sequence 20, Appl	C 769	10.8	49.1	20	3	US-08-960-774-17	Sequence 15, Appl
C 697	11	50.0	72	1	US-08-434-425-20	Sequence 20, Appl	C 770	10.8	49.1	20	4	US-09-325-193A-7	Sequence 7, Appl
C 698	11	50.0	72	1	US-08-434-425-54	Sequence 54, Appl	C 771	10.8	49.1	20	4	US-09-325-193A-8	Sequence 8, Appl
C 699	11	50.0	72	2	US-08-437-667-20	Sequence 20, Appl	C 772	10.8	49.1	20	4	US-09-325-193A-9	Sequence 9, Appl
C 700	11	50.0	72	2	US-08-437-667-54	Sequence 54, Appl	C 773	10.8	49.1	20	4	US-09-325-193A-31	Sequence 31, Appl
C 701	11	50.0	72	3	US-08-906-955-20	Sequence 20, Appl	C 774	10.8	49.1	20	4	US-09-325-193A-33	Sequence 33, Appl
C 702	11	50.0	72	3	US-08-906-955-54	Sequence 54, Appl	C 775	10.8	49.1	20	4	US-09-325-193A-34	Sequence 34, Appl
C 703	11	50.0	72	3	US-08-945-909-20	Sequence 20, Appl	C 776	10.8	49.1	20	4	US-09-191-170-7	Sequence 7, Appl
C 704	11	50.0	72	3	US-08-945-909-54	Sequence 54, Appl	C 777	10.8	49.1	20	4	US-09-191-170-8	Sequence 8, Appl
C 705	11	50.0	72	3	US-09-396-002A-54	Sequence 20, Appl	C 778	10.8	49.1	20	4	US-09-191-170-9	Sequence 9, Appl
C 706	11	50.0	72	3	US-09-396-002A-50	Sequence 54, Appl	C 779	10.8	49.1	20	4	US-09-191-170-10	Sequence 10, Appl
C 707	11	50.0	72	4	US-10-077-319-20	Sequence 20, Appl	C 780	10.8	49.1	20	4	US-09-191-170-37	Sequence 37, Appl
C 708	11	50.0	72	4	US-10-077-319-54	Sequence 54, Appl	C 781	10.8	49.1	20	4	US-09-112-580-137	Sequence 137, Appl
C 709	11	50.0	72	4	US-09-621-976-14536	Sequence 14536, A	C 782	10.8	49.1	20	4	US-09-337-619-15	Sequence 15, Appl
C 710	11	50.0	72	5	PCT-US96-06060-20	Sequence 20, Appl	C 783	10.8	49.1	21	3	US-09-337-619-17	Sequence 17, Appl
C 711	11	50.0	72	5	PCT-US96-06060-54	Sequence 54, Appl	C 784	10.8	49.1	21	3	US-09-413-304-14	Sequence 14, Appl
C 712	11	50.0	76	1	US-07-988-430-81	Sequence 81, Appl	C 785	10.8	49.1	21	4	US-09-286-098-39	Sequence 39, Appl
C 713	11	50.0	76	1	US-08-425-336-79	Sequence 79, Appl	C 786	10.8	49.1	21	4	US-09-817-856-14	Sequence 14, Appl
C 714	11	50.0	76	1	US-08-477-530-8	Sequence 8, Appl	C 787	10.8	49.1	22	3	US-09-092-314-9	Sequence 9, Appl
C 715	11	50.0	76	1	US-08-477-530-8	Sequence 8, Appl	C 788	10.8	49.1	22	3	US-08-728-217-3	Sequence 3, Appl
C 716	11	50.0	76	1	US-08-477-830-8	Sequence 8, Appl	C 789	10.8	49.1	24	2	US-08-821-948-3	Sequence 3, Appl
C 717	11	50.0	76	1	US-08-488-113B-79	Sequence 79, Appl	C 790	10.8	49.1	24	4	US-09-227-701-1	Sequence 1, Appl
C 718	11	50.0	76	1	US-08-477-484B-79	Sequence 79, Appl	C 791	10.8	49.1	24	4	US-09-397-955C-3	Sequence 3, Appl
C 719	11	50.0	76	2	US-08-646-360-79	Sequence 79, Appl	C 792	10.8	49.1	24	5	US-10-173-480-3	Sequence 3, Appl
C 720	11	50.0	76	3	US-08-839-765-79	Sequence 79, Appl	C 793	10.8	49.1	24	5	PCT-US95-04092-3	Sequence 3, Appl
C 721	11	50.0	76	3	US-09-136-389-79	Sequence 79, Appl	C 794	10.8	49.1	25	3	US-08-865-960-7	Sequence 7, Appl
C 722	11	50.0	76	3	US-09-610-838-79	Sequence 79, Appl	C 795	10.8	49.1	25	3	US-09-342-749-13	Sequence 13, Appl
C 723	11	50.0	76	4	US-09-711-485-79	Sequence 79, Appl	C 796	10.8	49.1	25	4	US-09-691-840-13	Sequence 13, Appl
C 724	11	50.0	76	5	PCT-US92-09487-81	Sequence 81, Appl	C 797	10.8	49.1	25	4	US-09-538-709-296	Sequence 296, Appl
C 725	11	50.0	77	1	US-08-442-572-28	Sequence 28, Appl	C 798	10.8	49.1	25	4	US-09-827-998-995	Sequence 905, Appl
C 726	11	50.0	77	1	US-08-442-572-29	Sequence 29, Appl	C 799	10.8	49.1	25	4	US-09-827-998-996	Sequence 906, Appl
C 727	11	50.0	77	1	US-08-399-412A-34	Sequence 34, Appl	C 800	10.8	49.1	25	4	US-09-827-998-918	Sequence 918, Appl
C 728	11	50.0	77	1	US-08-361-795-28	Sequence 28, Appl	C 801	10.8	49.1	25	4	US-09-827-998-919	Sequence 919, Appl
C 729	11	50.0	77	1	US-08-361-795-29	Sequence 29, Appl	C 802	10.8	49.1	27	2	US-08-859-998-1103	Sequence 1103, Appl
C 730	11	50.0	77	1	US-08-447-169A-38	Sequence 38, Appl	C 803	10.8	49.1	27	3	US-09-225-928-1103	Sequence 1103, Ap
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C 732	11	50.0	77	4	US-09-860-474-38	Sequence 38, Appl	C 805	10.8	49.1	27	4	US-08-840-713-33	Sequence 33, Appl
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C 741	10.8	49.1	17	1	US-08-373-124A-1208	Sequence 1208, Ap	C 814	10.8	49.1	34	2	US-08-924-695A-17	Sequence 17, Appl
C 742	10.8	49.1	17	1	US-08-373-124A-1210	Sequence 1210, Ap	C 815	10.8	49.1	34	2	US-09-155-107-38	Sequence 38, Appl
C 743	10.8	49.1	17	1	US-08-640-378-22	Sequence 22, Appl	C 816	10.8	49.1	36	3	US-08-792-832A-11	Sequence 11, Appl
C 744	10.8	49.1	17	1	US-08-435-628-1206	Sequence 1206, Ap	C 817	10.8	49.1	36	4	US-09-479-005A-681	Sequence 681, Appl
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C 755	10.8	49.1	20	3	US-08-386-063-10	Sequence 10, Appl	C 828	10.8	49.1	47	4	US-09-422-978-1867	Sequence 1867, Ap
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C 757	10.8	49.1	20	3	US-08-386-063-10	Sequence 10, Appl	C 830	10.8	49.1	49	3	US-08-811-828-11	Sequence 11, Appl



C 831	10.8	49.1	50	4	US-09-930-181-7	Sequence 7, Appl1	904	10.8	49.1	97	5	PCT-US94-06456-56	Sequence 56, Appl
C 832	10.8	49.1	51	4	US-08-956-171E-2535	Sequence 2535, Ap	905	10.6	48.2	17	3	US-08-584-040-5598	Sequence 5598, Ap
C 833	10.8	49.1	51	4	US-08-956-171E-3434	Sequence 3434, Ap	906	10.6	48.2	17	4	US-09-371-772B-2297	Sequence 2297, Ap
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C 838	10.8	49.1	53	3	US-08-597-325-9	Sequence 9, Appl1	911	10.6	48.2	20	3	US-09-086-372A-17	Sequence 17, Appl
C 839	10.8	49.1	53	3	US-08-597-325-9	Sequence 9, Appl1	912	10.6	48.2	20	3	US-08-600-982-5	Sequence 5, Appl1
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C 856	10.8	49.1	70	2	US-08-484-552A-157	Sequence 147, Appl	929	10.6	48.2	25	3	US-09-456-830-67	Sequence 67, Appl
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## ALIGNMENTS

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; Sequence 19, Application US/09235742
; Patent No. 6498148
; GENERAL INFORMATION:
; APPLICANT: Raz, Eyal
; TITLE OF INVENTION: Immunization-Free Methods for Treating
; TITLE OF INVENTION: Antigen-Stimulated Inflammation in a Mammalian Host and
; TITLE OF INVENTION: Shifting the Host's Antigen Immune Responsiveness to a T11
; FILE REFERENCE: 6510-176CON4
; CURRENT APPLICATION NUMBER: US/09/235,742
; CURRENT FILING DATE: 1999-01-21
; EARLIER APPLICATION NUMBER: 08/927,120
; EARLIER FILING DATE: 1997-09-05
; EARLIER APPLICATION NUMBER: 08/593,554
; EARLIER FILING DATE: 1996-01-30
; EARLIER APPLICATION NUMBER: 06/725,968
; EARLIER FILING DATE: 1996-10-04
; EARLIER APPLICATION NUMBER: 60/028,118
; EARLIER FILING DATE: 1996-10-11
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; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 19
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; FEATURE:
; OTHER INFORMATION: Recombinant or Synthetic Sequence
US-09-235-742-19

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RESULT 2
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; Sequence 32, Application US/09347343A
; Patent No. 6514948
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; GENERAL INFORMATION:
; APPLICANT: RAZ, Eyal R.
; APPLICANT: KOBAYASHI, Hiroko
; TITLE OF INVENTION: METHOD FOR ENHANCING AN IMMUNE RESPONSE
; FILE REFERENCE: 30448.64US01
; CURRENT APPLICATION NUMBER: US/09/347,343A
; CURRENT FILING DATE: 1999-07-02
; NUMBER OF SEQ ID NOS: 40
; SOFTWARE: FastSeq for Windows Version 3.0
; SEQ ID NO 32
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; TYPE: DNA
; ORGANISM: Synthetic oligonucleotide
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RESULT 3
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; Sequence 1, Application US/09820484
; Patent No. 6534062
; GENERAL INFORMATION:
; APPLICANT: Raz, Eyal
; APPLICANT: Cho, Hearn Jay
; APPLICANT: Richman, Douglas
; APPLICANT: Horner, Anthony A.
; TITLE OF INVENTION: Method for Increasing a Cytotoxic T
; TITLE OF INVENTION: Lymphocyte Response in vivo.
; FILE REFERENCE: 06510-188US1
; CURRENT APPLICATION NUMBER: US/09/820,484
; CURRENT FILING DATE: 2001-03-28
; PRIOR APPLICATION NUMBER: US 60/192,537
; PRIOR FILING DATE: 2000-03-28
; PRIOR APPLICATION NUMBER: US 60/203,567
; PRIOR FILING DATE: 2000-05-11
; PRIOR APPLICATION NUMBER: US 60/215,895
; PRIOR FILING DATE: 2000-07-05
; NUMBER OF SEQ ID NOS: 8
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 1
; LENGTH: 22
; TYPE: DNA
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Disulfide-linked phosphorothioate ISS-ODN
; NAME/KEY: modified base
; LOCATION: (1)...(1)T
; OTHER INFORMATION: disulfide thymine
US-09-820-484-1

Query Match 100.0%; Score 22; DB 4; Length 22;
Best Local Similarity 100.0%; Pred. No. 0.027;
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 TGACTGTGAACGTTTCGAGATGA 22
Db 1 TGACTGTGAACGTTTCGAGATGA 22

RESULT 4
US-09-820-484-3
; Sequence 3, Application US/09820484
; Patent No. 6534062
; GENERAL INFORMATION:
; APPLICANT: Raz, Eyal
; APPLICANT: Cho, Hearn Jay
```

```
APPLICANT: Richman, Douglas
APPLICANT: Horner, Anthony A.
TITLE OF INVENTION: Method for increasing a Cytotoxic T
FILE REFERENCE: 06510-188US1
CURRENT APPLICATION NUMBER: US/09/820,484
CURRENT FILING DATE: 2001-03-28
PRIOR APPLICATION NUMBER: US 60/192,537
PRIOR FILING DATE: 2000-03-28
PRIOR APPLICATION NUMBER: US 60/203,567
PRIOR FILING DATE: 2000-05-11
PRIOR APPLICATION NUMBER: US 60/215,895
PRIOR FILING DATE: 2000-07-05
NUMBER OF SEQ ID NOS: 8
SOFTWARE: FaastSeq for Windows Version 4.0
SEQ ID NO 3
LENGTH: 22
TYPE: DNA
ORGANISM: Artificial Sequence
FEATURE:
OTHER INFORMATION: phosphorothioate ISS-ODN
US-09-820-484-3
```

```
Query Match 100.0%; Score 22; DB 4; Length 22;
Best Local Similarity 100.0%; Pred. No. 0.027;
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
```

```
QY 1 TGAAGTGAACGTTGAGATGA 22
DB 1 TGAAGTGAACGTTGAGATGA 22
```

```
RESULT 5
US-09-774-403A-1
Sequence 1, Application US/09774403A
Patent No. 6552006
GENERAL INFORMATION:
APPLICANT: Eyal Raz
APPLICANT: Richard Kornbluth
APPLICANT: Antonio Catanzaro
APPLICANT: Tomoko Hayashi
APPLICANT: Dennis Carson
TITLE OF INVENTION: Immunomodulatory Polynucleotides in
FILE REFERENCE: UCAL166
CURRENT APPLICATION NUMBER: US/09/774,403A
CURRENT FILING DATE: 2002-04-15
PRIOR APPLICATION NUMBER: 60/179,353
PRIOR FILING DATE: 2000-01-31
NUMBER OF SEQ ID NOS: 7
SOFTWARE: FaastSeq for Windows Version 4.0
SEQ ID NO 1
LENGTH: 22
TYPE: DNA
ORGANISM: Artificial Sequence
FEATURE:
OTHER INFORMATION: Immunomodulatory sequence
US-09-774-403A-1
```

```
Query Match 100.0%; Score 22; DB 4; Length 22;
Best Local Similarity 100.0%; Pred. No. 0.027;
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
```

```
QY 1 TGAAGTGAACGTTGAGATGA 22
DB 1 TGAAGTGAACGTTGAGATGA 22
```

```
RESULT 6
US-09-296-477-2
Sequence 2, Application US/09296477A
Patent No. 6589940
GENERAL INFORMATION:
```

```
APPLICANT: RAZ, E.
APPLICANT: SCHWARTZ, D.
APPLICANT: ROMAN, M.
APPLICANT: DINA, D.
TITLE OF INVENTION: IMMUNOSTIMULATORY OLIGONUCLEOTIDES,
FILE REFERENCE: 37782000420
CURRENT APPLICATION NUMBER: US/09/296,477A
CURRENT FILING DATE: 1999-04-22
PRIOR APPLICATION NUMBER: 09/092,329
PRIOR FILING DATE: 1998-06-05
PRIOR APPLICATION NUMBER: 60/048,793
PRIOR FILING DATE: 1997-06-06
NUMBER OF SEQ ID NOS: 21
SOFTWARE: FaastSeq for Windows Version 3.0
SEQ ID NO 2
LENGTH: 22
TYPE: DNA
ORGANISM: Artificial Sequence
FEATURE:
OTHER INFORMATION: Synthetic construct
US-09-296-477-2
```

```
Query Match 100.0%; Score 22; DB 4; Length 22;
Best Local Similarity 100.0%; Pred. No. 0.027;
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
```

```
QY 1 TGAAGTGAACGTTGAGATGA 22
DB 1 TGAAGTGAACGTTGAGATGA 22
```

```
RESULT 7
US-09-308-036A-1
Sequence 1, Application US/09308036A
Patent No. 6610661
GENERAL INFORMATION:
APPLICANT: Raz, Eyal
APPLICANT: Roman, Mark
APPLICANT: Dennis Carson
TITLE OF INVENTION: Immunostimulatory
FILE REFERENCE: 6510-172CIP
CURRENT APPLICATION NUMBER: US/09/308,036A
CURRENT FILING DATE: 2000-02-16
PRIOR APPLICATION NUMBER: PCT/US97/19004
PRIOR FILING DATE: 1997-10-09
PRIOR APPLICATION NUMBER: 60/028,118
PRIOR FILING DATE: 1996-10-11
NUMBER OF SEQ ID NOS: 2
SOFTWARE: FaastSeq for Windows Version 4.0
SEQ ID NO 1
LENGTH: 22
TYPE: DNA
ORGANISM: Artificial Sequence
FEATURE:
OTHER INFORMATION: DY1018 polynucleotide
US-09-308-036A-1
```

```
Query Match 100.0%; Score 22; DB 4; Length 22;
Best Local Similarity 100.0%; Pred. No. 0.027;
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
```

```
QY 1 TGAAGTGAACGTTGAGATGA 22
DB 1 TGAAGTGAACGTTGAGATGA 22
```

```
RESULT 8
US-09-791-500-1
Sequence 1, Application US/09791500
Patent No. 6613751
```

```
/ GENERAL INFORMATION:
/ APPLICANT: Raz, Eyal
/ APPLICANT: Rachmilewicz, Daniel
/ TITLE OF INVENTION: Method for Treating Inflammatory Bowel
/ TITLE OF INVENTION: Disease and Other Forms of Gastrointestinal Inflammation.
/ FILE REFERENCE: 6510-202US1
/ CURRENT APPLICATION NUMBER: US/09/791,500
/ CURRENT FILING DATE: 2001-02-22
/ NUMBER OF SEQ ID NOS: 39
/ SOFTWARE: FastSeq for Windows Version 4.0
/ SEQ ID NO 1
/ LENGTH: 22
/ TYPE: DNA
/ ORGANISM: Artificial Sequence
/ FEATURE:
/ OTHER INFORMATION: synthetic polynucleotide sequence
US-09-791-500-1

Query Match          100.0%; Score 22; DB 4; Length 22;
Best Local Similarity 100.0%; Pred. No. 0.027;
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 TGAAGTGAACGTTGAGATGA 22
    |||||||
DB 1 TGAAGTGAACGTTGAGATGA 22

RESULT 9
US-09-565-906-2
/ Sequence 2, Application US/09565906
/ Patent No. 6737066
/ GENERAL INFORMATION:
/ APPLICANT: Moss, Ronald B.
/ TITLE OF INVENTION: HIV Immunogenic Compositions and Methods
/ FILE REFERENCE: P-1M 4029
/ CURRENT APPLICATION NUMBER: US/09/565,906
/ CURRENT FILING DATE: 2000-05-05
/ PRIOR APPLICATION NUMBER: US 60/132,762
/ PRIOR FILING DATE: 1999-05-06
/ PRIOR APPLICATION NUMBER: US 60/150,667
/ PRIOR FILING DATE: 1999-08-25
/ NUMBER OF SEQ ID NOS: 4
/ SOFTWARE: FastSeq for Windows Version 4.0
/ SEQ ID NO 2
/ LENGTH: 22
/ TYPE: DNA
/ ORGANISM: Artificial Sequence
/ FEATURE:
/ OTHER INFORMATION: phosphorothioate-modified synthetic
US-09-565-906-2

Query Match          100.0%; Score 22; DB 4; Length 22;
Best Local Similarity 100.0%; Pred. No. 0.027;
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 TGAAGTGAACGTTGAGATGA 22
    |||||||
DB 1 TGAAGTGAACGTTGAGATGA 22

RESULT 10
US-09-296-477-15
/ Sequence 15, Application US/09296477A
/ Patent No. 6589940
/ GENERAL INFORMATION:
/ APPLICANT: Raz, E.
/ APPLICANT: SCHWARTZ, D.
/ APPLICANT: ROMAN, M.
/ APPLICANT: DINA, D.
/ TITLE OF INVENTION: IMMUNOSTIMULATORY OLIGONUCLEOTIDES,
/ TITLE OF INVENTION: COMPOSITIONS THEREOF AND METHODS OF USE
/ TITLE OF INVENTION: THEREOF
```

```
/ FILE REFERENCE: 377882000420
/ CURRENT APPLICATION NUMBER: US/09/296,477A
/ CURRENT FILING DATE: 1999-04-22
/ EARLIER APPLICATION NUMBER: 09/092,329
/ EARLIER FILING DATE: 1998-06-05
/ EARLIER APPLICATION NUMBER: 60/048,793
/ EARLIER FILING DATE: 1997-06-06
/ NUMBER OF SEQ ID NOS: 21
/ SOFTWARE: FastSeq for Windows Version 3.0
/ SEQ ID NO 15
/ LENGTH: 22
/ TYPE: DNA
/ ORGANISM: Artificial Sequence
/ FEATURE:
/ OTHER INFORMATION: Synthetic construct
/ NAME/KEY: modified base
/ LOCATION: (11)...(11)
/ OTHER INFORMATION: 5-bromocytosine
US-09-296-477-15

Query Match          95.5%; Score 21; DB 4; Length 22;
Best Local Similarity 95.5%; Pred. No. 0.087;
Matches 21; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

QY 1 TGAAGTGAACGTTGAGATGA 22
    |||||||
DB 1 TGAAGTGAACGTTGAGATGA 22

RESULT 11
US-09-092-314-2
/ Sequence 2, Application US/09092314
/ Patent No. 6225292
/ GENERAL INFORMATION:
/ APPLICANT: Raz, Eyal
/ APPLICANT: Roman, Mark
/ TITLE OF INVENTION: Inhibitors of DNA Immunostimulatory
/ TITLE OF INVENTION: Sequence Activity
/ Patent No. 6225292
/ FILE REFERENCE: 6510-173US1
/ CURRENT APPLICATION NUMBER: US/09/092,314
/ CURRENT FILING DATE: 1998-06-05
/ PRIOR APPLICATION NUMBER: 60/048,794
/ PRIOR FILING DATE: 1997-06-06
/ NUMBER OF SEQ ID NOS: 11
/ SOFTWARE: FastSeq for Windows Version 4.0
/ SEQ ID NO 2
/ LENGTH: 22
/ TYPE: DNA
/ ORGANISM: Artificial Sequence
/ FEATURE:
/ OTHER INFORMATION: Oligonucleotide
US-09-092-314-2

Query Match          92.7%; Score 20.4; DB 3; Length 22;
Best Local Similarity 95.5%; Pred. No. 0.18;
Matches 21; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

QY 1 TGAAGTGAACGTTGAGATGA 22
    |||||||
DB 1 TGAAGTGAACGTTGAGATGA 22

RESULT 12
US-09-820-484-2
/ Sequence 2, Application US/09820484
/ Patent No. 6534062
/ GENERAL INFORMATION:
/ APPLICANT: Raz, Eyal
/ APPLICANT: Cho, Hearn Jay
/ APPLICANT: Richman, Douglas
/ APPLICANT: Horner, Anthony A.
```

;; TITLE OF INVENTION: Method for Increasing a Cytotoxic T  
;; FILE OF INVENTION: Lymphocyte Response in vivo.  
;; FILE REFERENCE: 06510-188US1  
;; CURRENT APPLICATION NUMBER: US/09/820,484  
;; CURRENT FILING DATE: 2001-03-28  
;; PRIOR APPLICATION NUMBER: US 60/192,537  
;; PRIOR FILING DATE: 2000-03-28  
;; PRIOR APPLICATION NUMBER: US 60/203,567  
;; PRIOR FILING DATE: 2000-05-11  
;; PRIOR APPLICATION NUMBER: US 60/215,895  
;; PRIOR FILING DATE: 2000-07-05  
;; NUMBER OF SEQ ID NOS: 8  
;; SOFTWARE: FastSeq for Windows Version 4.0  
;; SEQ ID NO 2  
;; LENGTH: 22  
;; TYPE: DNA  
;; ORGANISM: Artificial Sequence  
;; FEATURE:  
;; OTHER INFORMATION: mutated ODN  
;; NAME/KEY: modified base  
;; LOCATION: (1)...(1)  
;; OTHER INFORMATION: disulfide thymine  
US-09-820-484-2

Query Match 92.7%; Score 20.4; DB 4; Length 22;  
Best Local Similarity 95.5%; Pred. No. 0.18;  
Matches 21; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

OY 1 TGACTGTGAACGTTGCAGATGA 22  
DB 1 TGACTGTGAACGTTGCAGATGA 22

RESULT 13  
US-09-820-484-6  
;; Sequence 6, Application US/09820484  
;; Patent No. 6534062  
;; GENERAL INFORMATION:  
;; APPLICANT: Raz, Eyal  
;; APPLICANT: Cho, Hearn Jay  
;; APPLICANT: Richman, Douglas  
;; APPLICANT: Horner, Anthony A.  
;; TITLE OF INVENTION: Method for Increasing a Cytotoxic T  
;; FILE OF INVENTION: Lymphocyte Response in vivo.  
;; FILE REFERENCE: 06510-188US1  
;; CURRENT APPLICATION NUMBER: US/09/820,484  
;; CURRENT FILING DATE: 2001-03-28  
;; PRIOR APPLICATION NUMBER: US 60/192,537  
;; PRIOR FILING DATE: 2000-03-28  
;; PRIOR APPLICATION NUMBER: US 60/203,567  
;; PRIOR FILING DATE: 2000-05-11  
;; PRIOR APPLICATION NUMBER: US 60/215,895  
;; PRIOR FILING DATE: 2000-07-05  
;; NUMBER OF SEQ ID NOS: 8  
;; SOFTWARE: FastSeq for Windows Version 4.0  
;; SEQ ID NO 6  
;; LENGTH: 22  
;; TYPE: DNA  
;; ORGANISM: Artificial Sequence  
;; FEATURE:  
;; OTHER INFORMATION: mutated control ODN  
US-09-820-484-6

Query Match 92.7%; Score 20.4; DB 4; Length 22;  
Best Local Similarity 95.5%; Pred. No. 0.18;  
Matches 21; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

OY 1 TGACTGTGAACGTTGCAGATGA 22  
DB 1 TGACTGTGAACGTTGCAGATGA 22

RESULT 14

US-09-774-403A-2  
;; Sequence 2, Application US/09774403A  
;; Patent No. 6552006  
;; GENERAL INFORMATION:  
;; APPLICANT: Eyal Raz  
;; APPLICANT: Richard Kornbluth  
;; APPLICANT: Antonio Catanzaro  
;; APPLICANT: Tomoko Hayashi  
;; APPLICANT: Dennis Carson  
;; TITLE OF INVENTION: Immunomodulatory Polynucleotides in  
;; FILE OF INVENTION: Treatment of Infection by an Intracellular Pathogen  
;; FILE REFERENCE: UCA1166  
;; CURRENT APPLICATION NUMBER: US/09/774,403A  
;; CURRENT FILING DATE: 2002-04-15  
;; PRIOR APPLICATION NUMBER: 60/179,353  
;; PRIOR FILING DATE: 2000-01-31  
;; NUMBER OF SEQ ID NOS: 7  
;; SOFTWARE: FastSeq for Windows Version 4.0  
;; SEQ ID NO 2  
;; LENGTH: 22  
;; TYPE: DNA  
;; ORGANISM: Artificial Sequence  
;; FEATURE:  
;; OTHER INFORMATION: Control sequence  
US-09-774-403A-2

Query Match 92.7%; Score 20.4; DB 4; Length 22;  
Best Local Similarity 95.5%; Pred. No. 0.18;  
Matches 21; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

OY 1 TGACTGTGAACGTTGCAGATGA 22  
DB 1 TGACTGTGAACGTTGCAGATGA 22

RESULT 15  
US-09-296-477-1  
;; Sequence 1, Application US/09296477A  
;; Patent No. 6589940  
;; GENERAL INFORMATION:  
;; APPLICANT: RAZ, E.  
;; APPLICANT: SCHWARTZ, D.  
;; APPLICANT: ROMAN, M.  
;; APPLICANT: DINA, D.  
;; TITLE OF INVENTION: IMMUNOSTIMULATORY OLIGONUCLEOTIDES,  
;; FILE OF INVENTION: COMPOSITIONS THEREOF AND METHODS OF USE  
;; TITLE OF INVENTION: THEREOF  
;; FILE REFERENCE: 377882000420  
;; CURRENT APPLICATION NUMBER: US/09/296,477A  
;; CURRENT FILING DATE: 1999-04-22  
;; PRIOR APPLICATION NUMBER: 09/092,329  
;; EARLIER FILING DATE: 1998-06-05  
;; EARLIER APPLICATION NUMBER: 60/048,793  
;; EARLIER FILING DATE: 1997-06-06  
;; NUMBER OF SEQ ID NOS: 21  
;; SOFTWARE: FastSeq for Windows Version 3.0  
;; SEQ ID NO 1  
;; LENGTH: 22  
;; TYPE: DNA  
;; ORGANISM: Artificial Sequence  
;; FEATURE:  
;; OTHER INFORMATION: Synthetic construct  
US-09-296-477-1

Query Match 92.7%; Score 20.4; DB 4; Length 22;  
Best Local Similarity 95.5%; Pred. No. 0.18;  
Matches 21; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

OY 1 TGACTGTGAACGTTGCAGATGA 22  
DB 1 TGACTGTGAACGTTGCAGATGA 22

RESULT 16  
US-09-296-477-5/c  
; Sequence 5, Application US/09296477A  
; Patent No. 6589940  
; GENERAL INFORMATION:  
; APPLICANT: RAZ, E.  
; APPLICANT: SCHWARTZ, D.  
; APPLICANT: ROMAN, M.  
; APPLICANT: DINI, D.  
; TITLE OF INVENTION: IMMUNOSTIMULATORY OLIGONUCLEOTIDES,  
; TITLE OF INVENTION: COMPOSITIONS THEREOF AND METHODS OF USE  
; FILE REFERENCE: 37788200420  
; CURRENT APPLICATION NUMBER: US/09/296,477A  
; EARLIER FILING DATE: 1999-04-22  
; EARLIER APPLICATION NUMBER: 09/092,329  
; EARLIER FILING DATE: 1998-06-05  
; EARLIER APPLICATION NUMBER: 60/048,793  
; EARLIER FILING DATE: 1997-06-06  
; NUMBER OF SEQ ID NOS: 21  
; SOFTWARE: FastSeq for Windows Version 3.0  
; SEQ ID NO 5  
; LENGTH: 22  
; TYPE: DNA  
; ORGANISM: Artificial Sequence  
; FEATURE:  
; OTHER INFORMATION: Synthetic construct  
US-09-296-477-5

Query Match 92.7%; Score 20.4; DB 4; Length 22;  
Best Local Similarity 95.5%; Pred. No. 0.18;  
Matches 21; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

QY 1 TGACTGTGAACGTTCCAGATGA 22  
DB 22 TGACGTGAACGTTCCAGATGA 1

RESULT 17  
US-09-296-477-6  
; Sequence 6, Application US/09296477A  
; Patent No. 6589940  
; GENERAL INFORMATION:  
; APPLICANT: RAZ, E.  
; APPLICANT: SCHWARTZ, D.  
; APPLICANT: ROMAN, M.  
; APPLICANT: DINI, D.  
; TITLE OF INVENTION: IMMUNOSTIMULATORY OLIGONUCLEOTIDES,  
; TITLE OF INVENTION: COMPOSITIONS THEREOF AND METHODS OF USE  
; FILE REFERENCE: 37788200420  
; CURRENT APPLICATION NUMBER: US/09/296,477A  
; EARLIER FILING DATE: 1999-04-22  
; EARLIER APPLICATION NUMBER: 09/092,329  
; EARLIER FILING DATE: 1998-06-05  
; EARLIER APPLICATION NUMBER: 60/048,793  
; EARLIER FILING DATE: 1997-06-06  
; NUMBER OF SEQ ID NOS: 21  
; SOFTWARE: FastSeq for Windows Version 3.0  
; SEQ ID NO 6  
; LENGTH: 22  
; TYPE: DNA  
; ORGANISM: Artificial Sequence  
; FEATURE:  
; OTHER INFORMATION: Synthetic construct  
US-09-296-477-6

Query Match 92.7%; Score 20.4; DB 4; Length 22;  
Best Local Similarity 95.5%; Pred. No. 0.18;  
Matches 21; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

QY 1 TGACTGTGAACGTTCCAGATGA 22  
DB 22 TGACGTGAACGTTCCAGATGA 1

DB 1 TGACTGTGAACGTTCCAGATGA 22  
RESULT 18  
US-09-791-500-4  
; Sequence 4, Application US/09791500  
; Patent No. 6613751  
; GENERAL INFORMATION:  
; APPLICANT: Raz, Eyal  
; APPLICANT: Rachmilewitz, Daniel  
; TITLE OF INVENTION: Method for Treating Inflammatory Bowel  
; TITLE OF INVENTION: Disease and Other Forms of Gastrointestinal Inflammation.  
; FILE REFERENCE: 6510-202US1  
; CURRENT APPLICATION NUMBER: US/09/791,500  
; NUMBER OF SEQ ID NOS: 39  
; SOFTWARE: FastSeq for Windows Version 4.0  
; SEQ ID NO 4  
; LENGTH: 22  
; TYPE: DNA  
; ORGANISM: Artificial Sequence  
; FEATURE:  
; OTHER INFORMATION: synthetic polynucleotide sequence  
US-09-791-500-4

Query Match 92.7%; Score 20.4; DB 4; Length 22;  
Best Local Similarity 95.5%; Pred. No. 0.18;  
Matches 21; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

QY 1 TGACTGTGAACGTTCCAGATGA 22  
DB 1 TGACTGTGAACGTTCCAGATGA 22

RESULT 19  
US-09-791-500-5  
; Sequence 5, Application US/09791500  
; Patent No. 6613751  
; GENERAL INFORMATION:  
; APPLICANT: Raz, Eyal  
; APPLICANT: Rachmilewitz, Daniel  
; TITLE OF INVENTION: Method for Treating Inflammatory Bowel  
; TITLE OF INVENTION: Disease and Other Forms of Gastrointestinal Inflammation.  
; FILE REFERENCE: 6510-202US1  
; CURRENT APPLICATION NUMBER: US/09/791,500  
; EARLIER FILING DATE: 2001-02-22  
; NUMBER OF SEQ ID NOS: 39  
; SOFTWARE: FastSeq for Windows Version 4.0  
; SEQ ID NO 5  
; LENGTH: 22  
; TYPE: DNA  
; ORGANISM: Artificial Sequence  
; FEATURE:  
; OTHER INFORMATION: synthetic polynucleotide sequence  
US-09-791-500-5

Query Match 92.7%; Score 20.4; DB 4; Length 22;  
Best Local Similarity 95.5%; Pred. No. 0.18;  
Matches 21; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

QY 1 TGACTGTGAACGTTCCAGATGA 22  
DB 1 TGACTGTGAACGTTCCAGATGA 22

RESULT 20  
US-09-791-500-6  
; Sequence 6, Application US/09791500  
; Patent No. 6613751  
; GENERAL INFORMATION:  
; APPLICANT: Raz, Eyal  
; APPLICANT: Rachmilewitz, Daniel  
; TITLE OF INVENTION: Method for Treating Inflammatory Bowel

```

; TITLE OF INVENTION: Disease and Other Forms of Gastrointestinal Inflammation.
; FILE REFERENCE: 6510-202US1
; CURRENT APPLICATION NUMBER: US/09/791,500
; CURRENT FILING DATE: 2001-02-22
; NUMBER OF SEQ ID NOS: 39
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 6
; LENGTH: 22
; TYPE: DNA
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: synthetic polynucleotide sequence
US-09-791-500-6

Query Match          92.7%; Score 20.4; DB 4; Length 22;
Best Local Similarity 95.5%; Pred. No. 0.18;
Matches 21; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

Qy 1 TGAAGTGAACGTTGAGATGA 22
    |||||
Db 1 TGAAGTGAACGTTGAGATGA 22

RESULT 21
US-09-296-477-16
; Sequence 16, Application US/09296477A
; Patent No. 6589940
; GENERAL INFORMATION:
; APPLICANT: RAZ, E.
; APPLICANT: SCHWARTZ, D.
; APPLICANT: DINA, M.
; APPLICANT: ROMAN, M.
; TITLE OF INVENTION: IMMUNOSTIMULATORY OLIGONUCLEOTIDES,
; TITLE OF INVENTION: COMPOSITIONS THEREOF AND METHODS OF USE
; TITLE OF INVENTION: THEREOF
; FILE REFERENCE: 37788200420
; CURRENT APPLICATION NUMBER: US/09/296,477A
; CURRENT FILING DATE: 1999-04-22
; EARLIER APPLICATION NUMBER: 09/092,329
; EARLIER FILING DATE: 1998-06-05
; EARLIER APPLICATION NUMBER: 60/048,793
; EARLIER FILING DATE: 1997-06-06
; NUMBER OF SEQ ID NOS: 21
; SOFTWARE: FastSeq for Windows Version 3.0
; SEQ ID NO 16
; LENGTH: 22
; TYPE: DNA
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Synthetic construct
; NAME/KEY: modified base
; LOCATION: (11)...(11)
; OTHER INFORMATION: 5-bromocytosine
; NAME/KEY: modified base
; LOCATION: (15)...(15)
; OTHER INFORMATION: 5-bromocytosine
US-09-296-477-16

Query Match          90.9%; Score 20; DB 4; Length 22;
Best Local Similarity 90.9%; Pred. No. 0.28;
Matches 20; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

Qy 1 TGAAGTGAACGTTGAGATGA 22
    |||||
Db 1 TGAAGTGAACGTTGAGATGA 22

RESULT 22
US-09-296-477-12
; Sequence 12, Application US/09296477A
; Patent No. 6589940
```

```

; GENERAL INFORMATION:
; APPLICANT: RAZ, E.
; APPLICANT: SCHWARTZ, D.
; APPLICANT: ROMAN, M.
; APPLICANT: DINA, M.
; TITLE OF INVENTION: IMMUNOSTIMULATORY OLIGONUCLEOTIDES,
; TITLE OF INVENTION: COMPOSITIONS THEREOF AND METHODS OF USE
; TITLE OF INVENTION: THEREOF
; FILE REFERENCE: 37788200420
; CURRENT APPLICATION NUMBER: US/09/296,477A
; CURRENT FILING DATE: 1999-04-22
; EARLIER APPLICATION NUMBER: 09/092,329
; EARLIER FILING DATE: 1998-06-05
; EARLIER APPLICATION NUMBER: 60/048,793
; EARLIER FILING DATE: 1997-06-06
; NUMBER OF SEQ ID NOS: 21
; SOFTWARE: FastSeq for Windows Version 3.0
; SEQ ID NO 12
; LENGTH: 22
; TYPE: DNA
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Synthetic construct
; NAME/KEY: modified base
; LOCATION: (11)...(11)
; OTHER INFORMATION: 5-bromocytosine
US-09-296-477-12

Query Match          88.2%; Score 19.4; DB 4; Length 22;
Best Local Similarity 90.9%; Pred. No. 0.58;
Matches 20; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

Qy 1 TGAAGTGAACGTTGAGATGA 22
    |||||
Db 1 TGAAGTGAACGTTGAGATGA 22

RESULT 23
US-09-092-314-1
; Sequence 1, Application US/09092314
; Patent No. 6225292
; GENERAL INFORMATION:
; APPLICANT: RAZ, Eyal
; APPLICANT: Roman, Mark
; TITLE OF INVENTION: Inhibitors of DNA Immunostimulatory
; TITLE OF INVENTION: Sequence Activity
; Patent No. 6225292
; FILE REFERENCE: 6510-173US1
; CURRENT APPLICATION NUMBER: US/09/092,314
; CURRENT FILING DATE: 1998-06-05
; PRIOR APPLICATION NUMBER: 60/048,794
; PRIOR FILING DATE: 1997-06-06
; NUMBER OF SEQ ID NOS: 11
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 1
; LENGTH: 22
; TYPE: DNA
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Oligonucleotide
US-09-092-314-1

Query Match          85.5%; Score 18.8; DB 3; Length 22;
Best Local Similarity 90.9%; Pred. No. 1.2;
Matches 20; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

Qy 1 TGAAGTGAACGTTGAGATGA 22
    |||||
Db 1 TGAAGTGAACGTTGAGATGA 22

RESULT 24
```

US-09-092-314-3  
; Sequence 3, Application US/09092314  
; Patent No. 6225292  
; GENERAL INFORMATION:  
; APPLICANT: Raz, Eyal  
; APPLICANT: Roman, Mark  
; TITLE OF INVENTION: Inhibitors of DNA Immunostimulatory  
; TITLE OF INVENTION: Sequence Activity  
; Patent No. 6225292  
; FILE REFERENCE: 6510-173US1  
; CURRENT APPLICATION NUMBER: US/09/092,314  
; CURRENT FILING DATE: 1998-06-05  
; PRIOR APPLICATION NUMBER: 60/048,794  
; PRIOR FILING DATE: 1997-06-06  
; NUMBER OF SEQ ID NOS: 11  
; SOFTWARE: FastSeq for Windows Version 4.0  
; SEQ ID NO 3  
; LENGTH: 22  
; TYPE: DNA  
; ORGANISM: Artificial Sequence  
; FEATURE:  
; OTHER INFORMATION: Oligonucleotide  
US-09-092-314-3

Query Match 85.5%; Score 18.8; DB 3; Length 22;  
Best Local Similarity 90.9%; Pred. No. 1.2;  
Matches 20; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

QY 1 TGACTGTGAACGTTGCAGATGA 22  
|||  
Db 1 TGACTGTGAACCTTAGAGATGA 22

RESULT 25  
US-09-092-314-10  
; Sequence 10, Application US/09092314  
; Patent No. 6225292  
; GENERAL INFORMATION:  
; APPLICANT: Raz, Eyal  
; APPLICANT: Roman, Mark  
; TITLE OF INVENTION: Inhibitors of DNA Immunostimulatory  
; TITLE OF INVENTION: Sequence Activity  
; Patent No. 6225292  
; FILE REFERENCE: 6510-173US1  
; CURRENT APPLICATION NUMBER: US/09/092,314  
; CURRENT FILING DATE: 1998-06-05  
; PRIOR APPLICATION NUMBER: 60/048,794  
; PRIOR FILING DATE: 1997-06-06  
; NUMBER OF SEQ ID NOS: 11  
; SOFTWARE: FastSeq for Windows Version 4.0  
; SEQ ID NO 10  
; LENGTH: 22  
; TYPE: DNA  
; ORGANISM: Artificial Sequence  
; FEATURE:  
; OTHER INFORMATION: Oligonucleotide  
US-09-092-314-10

Query Match 85.5%; Score 18.8; DB 3; Length 22;  
Best Local Similarity 90.9%; Pred. No. 1.2;  
Matches 20; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

QY 1 TGACTGTGAACGTTGCAGATGA 22  
|||  
Db 1 TGACTGTGAATGTTAGAGATGA 22

RESULT 26  
US-09-235-742-20  
; Sequence 20, Application US/09235742  
; Patent No. 6498148  
; GENERAL INFORMATION:  
; APPLICANT: Raz, Eyal

; TITLE OF INVENTION: Immunization-Free Methods for Treating  
; TITLE OF INVENTION: Antigen-Stimulated Inflammation in a Mammalian Host and  
; TITLE OF INVENTION: Shifting the Host's Antigen Immune Responsiveness to a TH1  
; TITLE OF INVENTION: Phenocopy  
; FILE REFERENCE: 6510-170CON4  
; CURRENT APPLICATION NUMBER: US/09/235,742  
; CURRENT FILING DATE: 1999-01-21  
; EARLIER APPLICATION NUMBER: 08/927,120  
; EARLIER FILING DATE: 1997-09-05  
; EARLIER APPLICATION NUMBER: 08/593,554  
; EARLIER FILING DATE: 1996-01-30  
; EARLIER APPLICATION NUMBER: 08/725,968  
; EARLIER FILING DATE: 1996-10-04  
; EARLIER APPLICATION NUMBER: 60/028,118  
; EARLIER FILING DATE: 1996-10-11  
; NUMBER OF SEQ ID NOS: 20  
; SOFTWARE: FastSeq for Windows Version 4.0  
; SEQ ID NO 20  
; LENGTH: 22  
; TYPE: DNA  
; ORGANISM: Artificial Sequence  
; FEATURE:  
; OTHER INFORMATION: Recombinant or Synthetic Sequence  
US-09-235-742-20

Query Match 85.5%; Score 18.8; DB 4; Length 22;  
Best Local Similarity 90.9%; Pred. No. 1.2;  
Matches 20; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

QY 1 TGACTGTGAACGTTGCAGATGA 22  
|||  
Db 1 TGACTGTGAAGGTTGAGATGA 22

RESULT 27  
US-09-347-343-33  
; Sequence 33, Application US/09347343A  
; Patent No. 6514948  
; GENERAL INFORMATION:  
; APPLICANT: RAZ, Eyal R.  
; APPLICANT: KOBAYASHI, Hiroko  
; TITLE OF INVENTION: METHOD FOR ENHANCING AN IMMUNE RESPONSE  
; FILE REFERENCE: 30448.64US01  
; CURRENT APPLICATION NUMBER: US/09/347,343A  
; CURRENT FILING DATE: 1999-07-02  
; NUMBER OF SEQ ID NOS: 40  
; SOFTWARE: FastSeq for Windows Version 3.0  
; SEQ ID NO 33  
; LENGTH: 22  
; TYPE: DNA  
; ORGANISM: synthetic oligonucleotide  
US-09-347-343-33

Query Match 85.5%; Score 18.8; DB 4; Length 22;  
Best Local Similarity 90.9%; Pred. No. 1.2;  
Matches 20; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

QY 1 TGACTGTGAACGTTGCAGATGA 22  
|||  
Db 1 TGACTGTGAACCTTAGAGATGA 22

RESULT 28  
US-09-820-484-7  
; Sequence 7, Application US/09820484  
; Patent No. 6534062  
; GENERAL INFORMATION:  
; APPLICANT: Raz, Eyal  
; APPLICANT: Cho, Hearn Jay  
; APPLICANT: Richman, Douglas  
; APPLICANT: Horner, Anthony A.  
; TITLE OF INVENTION: Method for Increasing a Cytotoxic T  
; TITLE OF INVENTION: Lymphocyte Response in vivo.



```
/ FILE REFERENCE: 06510-188US1
/ CURRENT APPLICATION NUMBER: US/09/820,484
/ CURRENT FILING DATE: 2001-03-28
/ PRIOR APPLICATION NUMBER: US 60/192,537
/ PRIOR FILING DATE: 2000-03-28
/ PRIOR APPLICATION NUMBER: US 60/203,567
/ PRIOR FILING DATE: 2000-05-11
/ PRIOR APPLICATION NUMBER: US 60/215,895
/ PRIOR FILING DATE: 2000-07-05
/ NUMBER OF SEQ ID NOS: 8
/ SOFTWARE: FastSeq for Windows Version 4.0
/ SEQ ID NO: 7
/ LENGTH: 22
/ TYPE: DNA
/ ORGANISM: Artificial Sequence
/ FEATURE:
/ OTHER INFORMATION: MODN
/ US-09-820-484-7
```

```
Query Match      85.5%; Score 18.8; DB 4; Length 22;
Best Local Similarity 90.9%; Pred. No. 1.2;
Matches 20; Conservative 0; Mismatches 2; Indels 0; Gaps 0;
```

```
Qy 1 TGACTGTGAACGTTGAGATGA 22
    |||||
Db 1 TGACTGTGAACGTTAGAGATGA 22
```

```
RESULT 29
US-09-774-403A-3
/ Sequence 3, Application US/09774403A
/ Patent No. 6552006
/ GENERAL INFORMATION:
/ APPLICANT: Eyal Raz
/ APPLICANT: Richard Kornbluth
/ APPLICANT: Antonio Catanzaro
/ APPLICANT: Tomoko Hayashi
/ APPLICANT: Dennis Carson
/ TITLE OF INVENTION: Immunomodulatory Polynucleotides in
/ TITLE OF INVENTION: Treatment of Infection by an Intracellular Pathogen
/ FILE REFERENCE: UCAL166
/ CURRENT APPLICATION NUMBER: US/09/774,403A
/ CURRENT FILING DATE: 2002-04-15
/ PRIOR APPLICATION NUMBER: 60/179,353
/ PRIOR FILING DATE: 2000-01-31
/ NUMBER OF SEQ ID NOS: 7
/ SOFTWARE: FastSeq for Windows Version 4.0
/ SEQ ID NO: 3
/ LENGTH: 22
/ TYPE: DNA
/ ORGANISM: Artificial Sequence
/ FEATURE:
/ OTHER INFORMATION: Control sequence
/ US-09-774-403A-3
```

```
Query Match      85.5%; Score 18.8; DB 4; Length 22;
Best Local Similarity 90.9%; Pred. No. 1.2;
Matches 20; Conservative 0; Mismatches 2; Indels 0; Gaps 0;
```

```
Qy 1 TGACTGTGAACGTTGAGATGA 22
    |||||
Db 1 TGACTGTGAAGGTTAGAGATGA 22
```

```
RESULT 30
US-09-296-477-3
/ Sequence 3, Application US/09296477A
/ Patent No. 6589940
/ GENERAL INFORMATION:
/ APPLICANT: RAZ, E.
/ APPLICANT: SCHWARTZ, D.
/ APPLICANT: ROMAN, M.
/ APPLICANT: DINA, D.
```

```
/ TITLE OF INVENTION: IMMUNOSTIMULATORY OLIGONUCLEOTIDES,
/ TITLE OF INVENTION: COMPOSITIONS THEREOF AND METHODS OF USE
/ TITLE OF INVENTION: THEREOF
/ FILE REFERENCE: 37782000420
/ CURRENT APPLICATION NUMBER: US/09/296,477A
/ CURRENT FILING DATE: 1999-04-22
/ EARLIER APPLICATION NUMBER: 09/092,329
/ EARLIER FILING DATE: 1998-06-05
/ EARLIER APPLICATION NUMBER: 60/048,793
/ EARLIER FILING DATE: 1997-06-06
/ NUMBER OF SEQ ID NOS: 21
/ SOFTWARE: FastSeq for Windows Version 3.0
/ SEQ ID NO: 3
/ LENGTH: 22
/ TYPE: DNA
/ ORGANISM: Artificial Sequence
/ FEATURE:
/ OTHER INFORMATION: Synthetic construct
/ US-09-296-477-3
```

```
Query Match      85.5%; Score 18.8; DB 4; Length 22;
Best Local Similarity 90.9%; Pred. No. 1.2;
Matches 20; Conservative 0; Mismatches 2; Indels 0; Gaps 0;
```

```
Qy 1 TGACTGTGAACGTTGAGATGA 22
    |||||
Db 1 TGACTGTGAAGGTTAGAGATGA 22
```

```
RESULT 31
US-09-296-477-8
/ Sequence 8, Application US/09296477A
/ Patent No. 6589940
/ GENERAL INFORMATION:
/ APPLICANT: RAZ, E.
/ APPLICANT: SCHWARTZ, D.
/ APPLICANT: ROMAN, M.
/ APPLICANT: DINA, D.
/ TITLE OF INVENTION: IMMUNOSTIMULATORY OLIGONUCLEOTIDES,
/ TITLE OF INVENTION: COMPOSITIONS THEREOF AND METHODS OF USE
/ TITLE OF INVENTION: THEREOF
/ FILE REFERENCE: 37782000420
/ CURRENT APPLICATION NUMBER: US/09/296,477A
/ CURRENT FILING DATE: 1999-04-22
/ EARLIER APPLICATION NUMBER: 09/092,329
/ EARLIER FILING DATE: 1998-06-05
/ EARLIER APPLICATION NUMBER: 60/048,793
/ EARLIER FILING DATE: 1997-06-06
/ NUMBER OF SEQ ID NOS: 21
/ SOFTWARE: FastSeq for Windows Version 3.0
/ SEQ ID NO: 8
/ LENGTH: 22
/ TYPE: DNA
/ ORGANISM: Artificial Sequence
/ FEATURE:
/ OTHER INFORMATION: Synthetic construct
/ US-09-296-477-8
```

```
Query Match      85.5%; Score 18.8; DB 4; Length 22;
Best Local Similarity 90.9%; Pred. No. 1.2;
Matches 20; Conservative 0; Mismatches 2; Indels 0; Gaps 0;
```

```
Qy 1 TGACTGTGAACGTTGAGATGA 22
    |||||
Db 1 TGACTGTGAAGGTTAGAGATGA 22
```

```
RESULT 32
US-09-308-036A-2
/ Sequence 2, Application US/09308036A
/ Patent No. 6610661
/ GENERAL INFORMATION:
/ APPLICANT: Carson, Dennis A.
```

```

; APPLICANT: Raz, Eyal
; APPLICANT: Roman, Mark
; TITLE OF INVENTION: Immunostimulatory
; TITLE OF INVENTION: Polynucleotide/Immunomodulatory Molecule Conjugates
; FILE REFERENCE: 6510-172CIP
; CURRENT APPLICATION NUMBER: US/09/308,036A
; CURRENT FILING DATE: 2000-02-16
; PRIOR APPLICATION NUMBER: PCT/US97/19004
; PRIOR FILING DATE: 1997-10-09
; PRIOR APPLICATION NUMBER: 60/028,118
; PRIOR FILING DATE: 1996-10-11
; NUMBER OF SEQ ID NOS: 2
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 2
; LENGTH: 22
; TYPE: DNA
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: D41019 polynucleotide
US-09-308-036A-2
```

```

Query Match      85.5%; Score 18.8; DB 4; Length 22;
Best Local Similarity 90.9%; Pred. No. 1.2;
Matches 20; Conservative 0; Mismatches 2; Indels 0; Gaps 0;
```

```
QY      1 TGACTGTGAACGTTGAGATGA 22
      |||||
Db      1 TGACTGTGAAGTTGAGATGA 22
```

```

RESULT 33
US-09-791-500-3
; Sequence 3, Application US/09791500
; Patent No. 6613751
; GENERAL INFORMATION:
; APPLICANT: Raz, Eyal
; APPLICANT: Rachmilewitz, Daniel
; TITLE OF INVENTION: Method for Treating Inflammatory Bowel
; TITLE OF INVENTION: Disease and Other Forms of Gastrointestinal Inflammation.
; FILE REFERENCE: 6510-202US1
; CURRENT APPLICATION NUMBER: US/09/791,500
; CURRENT FILING DATE: 2001-02-22
; NUMBER OF SEQ ID NOS: 39
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 3
; LENGTH: 22
; TYPE: DNA
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: synthetic polynucleotide sequence
US-09-791-500-3
```

```

Query Match      85.5%; Score 18.8; DB 4; Length 22;
Best Local Similarity 90.9%; Pred. No. 1.2;
Matches 20; Conservative 0; Mismatches 2; Indels 0; Gaps 0;
```

```
QY      1 TGACTGTGAACGTTGAGATGA 22
      |||||
Db      1 TGACTGTGAACCTTAGAGATGA 22
```

```

RESULT 34
US-09-791-500-8
; Sequence 8, Application US/09791500
; Patent No. 6613751
; GENERAL INFORMATION:
; APPLICANT: Raz, Eyal
; APPLICANT: Rachmilewitz, Daniel
; TITLE OF INVENTION: Method for Treating Inflammatory Bowel
; TITLE OF INVENTION: Disease and Other Forms of Gastrointestinal Inflammation.
; FILE REFERENCE: 6510-202US1
; CURRENT APPLICATION NUMBER: US/09/791,500
; CURRENT FILING DATE: 2001-02-22
```

```

; NUMBER OF SEQ ID NOS: 39
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 8
; LENGTH: 22
; TYPE: DNA
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: synthetic polynucleotide sequence
US-09-791-500-8
```

```

Query Match      85.5%; Score 18.8; DB 4; Length 22;
Best Local Similarity 90.9%; Pred. No. 1.2;
Matches 20; Conservative 0; Mismatches 2; Indels 0; Gaps 0;
```

```
QY      1 TGACTGTGAACGTTGAGATGA 22
      |||||
Db      1 TGACTGTGATGTTAGAGATGA 22
```

```

RESULT 35
US-09-092-314-4
; Sequence 4, Application US/09092314
; Patent No. 6225292
; GENERAL INFORMATION:
; APPLICANT: Raz, Eyal
; APPLICANT: Roman, Mark
; TITLE OF INVENTION: Inhibitors of DNA Immunostimulatory
; TITLE OF INVENTION: Sequence Activity
; FILE REFERENCE: 6510-173US1
; CURRENT APPLICATION NUMBER: US/09/092,314
; CURRENT FILING DATE: 1998-06-05
; PRIOR APPLICATION NUMBER: 60/048,794
; PRIOR FILING DATE: 1997-06-06
; NUMBER OF SEQ ID NOS: 11
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 4
; LENGTH: 22
; TYPE: DNA
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Oligonucleotide
US-09-092-314-4
```

```

Query Match      78.2%; Score 17.2; DB 3; Length 22;
Best Local Similarity 86.4%; Pred. No. 7.8;
Matches 19; Conservative 0; Mismatches 3; Indels 0; Gaps 0;
```

```
QY      1 TGACTGTGAACGTTGAGATGA 22
      |||||
Db      1 TGACTGTGAAGCTTAGAGATGA 22
```

```

RESULT 36
US-09-296-477-9
; Sequence 9, Application US/09296477A
; Patent No. 6589940
; GENERAL INFORMATION:
; APPLICANT: RAZ, E.
; APPLICANT: SCHWARTZ, D.
; APPLICANT: ROMAN, M.
; APPLICANT: DINA, D.
; TITLE OF INVENTION: IMMUNOSTIMULATORY OLIGONUCLEOTIDES,
; TITLE OF INVENTION: COMPOSITIONS THEREOF AND METHODS OF USE
; FILE REFERENCE: 37788200420
; CURRENT APPLICATION NUMBER: US/09/296,477A
; CURRENT FILING DATE: 1999-04-22
; EARLIER APPLICATION NUMBER: 09/092,329
; EARLIER FILING DATE: 1998-06-05
; EARLIER APPLICATION NUMBER: 60/048,793
; EARLIER FILING DATE: 1997-06-06
; NUMBER OF SEQ ID NOS: 21
```

SOFTWARE: FastSeq for Windows Version 3.0  
SEQ ID NO 9  
LENGTH: 22  
TYPE: DNA  
ORGANISM: Artificial Sequence  
FEATURE:  
OTHER INFORMATION: Synthetic construct  
US-09-296-477-9

Query Match 78.2%; Score 17.2; DB 4; Length 22;  
Best Local Similarity 86.4%; Pred. No. 7.8;  
Matches 19; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

Qy 1 TGACTGTGAACGTTGAGATGA 22  
|||||  
Db 1 TGACTGTGAACGTTAGAGTGA 22

RESULT 37  
US-09-296-477-13  
Sequence 13, Application US/09296477A  
Patent No. 6589940  
GENERAL INFORMATION:  
APPLICANT: RAZ, E.  
APPLICANT: SCHWARTZ, D.  
APPLICANT: ROMAN, M.  
APPLICANT: DIINA, D.  
TITLE OF INVENTION: IMMUNOSTIMULATORY OLIGONUCLEOTIDES,  
TITLE OF INVENTION: COMPOSITIONS THEREOF AND METHODS OF USE  
TITLE OF INVENTION: THEREOF  
FILE REFERENCE: 37788200420  
CURRENT APPLICATION NUMBER: US/09/296,477A  
CURRENT FILING DATE: 1999-04-22  
EARLIER APPLICATION NUMBER: 09/092,329  
EARLIER FILING DATE: 1998-06-05  
EARLIER APPLICATION NUMBER: 60/048,793  
EARLIER FILING DATE: 1997-06-06  
NUMBER OF SEQ ID NOS: 21  
SOFTWARE: FastSeq for Windows Version 3.0  
SEQ ID NO 13  
LENGTH: 22  
TYPE: DNA  
ORGANISM: Artificial Sequence  
FEATURE:  
OTHER INFORMATION: Synthetic construct  
US-09-296-477-13

Query Match 78.2%; Score 17.2; DB 4; Length 22;  
Best Local Similarity 86.4%; Pred. No. 7.8;  
Matches 19; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

Qy 1 TGACTGTGAACGTTGAGATGA 22  
|||||  
Db 1 TGACTGTGAACGTTAGAGTGA 22

RESULT 38  
US-09-791-500-9  
Sequence 9, Application US/09791500  
Patent No. 6613751  
GENERAL INFORMATION:  
APPLICANT: RAZ, Eyal  
APPLICANT: Rachmielewicz, Daniel  
TITLE OF INVENTION: Method for Treating Inflammatory Bowel  
Disease and Other Forms of Gastrointestinal Inflammation.  
FILE REFERENCE: 6510-2020U1  
CURRENT APPLICATION NUMBER: US/09/791,500  
CURRENT FILING DATE: 2001-02-22  
NUMBER OF SEQ ID NOS: 39  
SOFTWARE: FastSeq for Windows Version 4.0  
SEQ ID NO 9  
LENGTH: 22  
TYPE: DNA

ORGANISM: Artificial Sequence  
FEATURE:  
OTHER INFORMATION: synthetic polynucleotide sequence  
US-09-791-500-9

Query Match 78.2%; Score 17.2; DB 4; Length 22;  
Best Local Similarity 86.4%; Pred. No. 7.8;  
Matches 19; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

Qy 1 TGACTGTGAACGTTGAGATGA 22  
|||||  
Db 1 TGACTGTGCTCTTAGAGATGA 22

RESULT 39  
US-09-092-314-5  
Sequence 5, Application US/09092314  
Patent No. 6225292  
GENERAL INFORMATION:  
APPLICANT: RAZ, Eyal  
APPLICANT: Roman, Mark  
TITLE OF INVENTION: Inhibitors of DNA Immunostimulatory  
Sequence Activity  
Patent No. 6225292  
FILE REFERENCE: 6510-1730U1  
CURRENT APPLICATION NUMBER: US/09/092,314  
CURRENT FILING DATE: 1998-06-05  
PRIOR APPLICATION NUMBER: 60/048,794  
PRIOR FILING DATE: 1997-06-06  
NUMBER OF SEQ ID NOS: 11  
SOFTWARE: FastSeq for Windows Version 4.0  
SEQ ID NO 5  
LENGTH: 22  
TYPE: DNA  
ORGANISM: Artificial Sequence  
FEATURE:  
OTHER INFORMATION: Oligonucleotide  
US-09-092-314-5

Query Match 70.9%; Score 15.6; DB 3; Length 22;  
Best Local Similarity 81.8%; Pred. No. 52;  
Matches 18; Conservative 0; Mismatches 4; Indels 0; Gaps 0;

Qy 1 TGACTGTGAACGTTGAGATGA 22  
|||||  
Db 1 TGACTGTGCTCTTAGAGATGA 22

RESULT 40  
US-09-092-314-7  
Sequence 7, Application US/09092314  
Patent No. 6225292  
GENERAL INFORMATION:  
APPLICANT: RAZ, Eyal  
APPLICANT: Roman, Mark  
TITLE OF INVENTION: Inhibitors of DNA Immunostimulatory  
Sequence Activity  
Patent No. 6225292  
FILE REFERENCE: 6510-1730U1  
CURRENT APPLICATION NUMBER: US/09/092,314  
CURRENT FILING DATE: 1998-06-05  
PRIOR APPLICATION NUMBER: 60/048,794  
PRIOR FILING DATE: 1997-06-06  
NUMBER OF SEQ ID NOS: 11  
SOFTWARE: FastSeq for Windows Version 4.0  
SEQ ID NO 7  
LENGTH: 22  
TYPE: DNA  
ORGANISM: Artificial Sequence  
FEATURE:  
OTHER INFORMATION: Oligonucleotide  
US-09-092-314-7

Query Match 70.9%; Score 15.6; DB 3; Length 22;  
Best Local Similarity 81.8%; Pred. No. 52;  
Matches 18; Conservative 0; Mismatches 4; Indels 0; Gaps 0;

QY 1 TGACTGTGAACGTTGAGATGA 22  
Db 1 TGACTGTGAGGTCAGAGATGA 22

Search completed: October 30, 2004, 19:26:13  
Job time : 69 secs

GenCore version 5.1.6  
Copyright (c) 1993 - 2004 Compen Ltd.

OM nucleic - nucleic search, using sw model

Run on: October 30, 2004, 19:00:42 ; Search time 215 Seconds  
(without alignments)  
524.685 Million cell updates/sec

Title: US-09-802-376-1  
Perfect score: 22  
Sequence: 1 Tgactgtgacgttcgagatga 22

Scoring table: IDENTITY NUC  
Gapop 10.0 , Gapext 1.0

Searched: 3413475 seqs, 2563800928 residues  
Total number of hits satisfying chosen parameters: 2136562

Minimum DB seq length: 0  
Maximum DB seq length: 100

Post-Processing: Minimum Match 0%  
Maximum Match 100%  
Listing first 1000 summaries

Database : Published Applications\_NA.\*

1: /cgn2\_6/ptodata/1/pubpna/US07\_PUBCOMB.seq:\*  
2: /cgn2\_6/ptodata/1/pubpna/PCT\_NEW\_PUB.seq:\*  
3: /cgn2\_6/ptodata/1/pubpna/US06\_NEW\_PUB.seq:\*  
4: /cgn2\_6/ptodata/1/pubpna/US06\_PUBCOMB.seq:\*  
5: /cgn2\_6/ptodata/1/pubpna/US07\_NEW\_PUB.seq:\*  
6: /cgn2\_6/ptodata/1/pubpna/PCTUS\_PUBCOMB.seq:\*  
7: /cgn2\_6/ptodata/1/pubpna/US08\_NEW\_PUB.seq:\*  
8: /cgn2\_6/ptodata/1/pubpna/US08\_PUBCOMB.seq:\*  
9: /cgn2\_6/ptodata/1/pubpna/US09A\_PUBCOMB.seq:\*  
10: /cgn2\_6/ptodata/1/pubpna/US09B\_PUBCOMB.seq:\*  
11: /cgn2\_6/ptodata/1/pubpna/US09C\_PUBCOMB.seq:\*  
12: /cgn2\_6/ptodata/1/pubpna/US09\_NEW\_PUB.seq:\*  
13: /cgn2\_6/ptodata/1/pubpna/US10A\_PUBCOMB.seq:\*  
14: /cgn2\_6/ptodata/1/pubpna/US10B\_PUBCOMB.seq:\*  
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21: /cgn2\_6/ptodata/1/pubpna/US60\_PUBCOMB.seq:\*

Pred. No. is the number of results predicted by chance to have a  
score greater than or equal to the score of the result being printed,  
and is derived by analysis of the total score distribution.

## SUMMARIES

Result No.	Score	Query Match	Length DB	ID	Description
1	22	100.0	22	9	US-09-802-686-1
2	22	100.0	22	9	US-09-802-685-1
3	22	100.0	22	9	US-09-791-500-1
4	22	100.0	22	9	US-09-802-376-1
5	22	100.0	22	9	US-09-774-403A-1
6	22	100.0	22	9	US-09-802-370-1
7	22	100.0	22	9	US-09-802-445-1
8	22	100.0	22	9	US-09-820-484-1
9	22	100.0	22	9	US-09-820-484-3
10	22	100.0	22	9	US-09-828-505-1
11	22	100.0	22	9	US-09-967-881-2
12	22	100.0	22	10	US-09-927-422A-1

13	22	100.0	22	10	US-09-738-046A-3	Sequence 3, Appli
14	22	100.0	22	10	US-09-927-884-1	Sequence 1, Appli
15	22	100.0	22	10	US-09-802-359-1	Sequence 1, Appli
16	22	100.0	22	10	US-09-967-464-19	Sequence 19, Appli
17	22	100.0	22	10	US-09-848-986-1	Sequence 4, Appli
18	22	100.0	22	14	US-10-056-420-4	Sequence 4, Appli
19	22	100.0	22	14	US-10-033-243-2	Sequence 2, Appli
20	22	100.0	22	14	US-10-033-243-40	Sequence 40, Appli
21	22	100.0	22	14	US-10-033-243-59	Sequence 59, Appli
22	22	100.0	22	14	US-10-214-288-1	Sequence 1, Appli
23	22	100.0	22	14	US-10-099-512-1	Sequence 1, Appli
24	22	100.0	22	14	US-10-229-208-19	Sequence 19, Appli
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27	22	100.0	22	15	US-10-219-143-1	Sequence 1, Appli
28	22	100.0	22	15	US-10-214-799-2	Sequence 2, Appli
29	22	100.0	22	15	US-10-340-275-1	Sequence 1, Appli
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87	21	95.5	22	15	US-10-176-883-80	Sequence 80, Appl	160	20.4	92.7	22	17	US-10-739-518-77	Sequence 77, Appl
88	21	95.5	22	15	US-10-176-883-86	Sequence 86, Appl	161	20	90.9	22	9	US-09-802-666-8	Sequence 8, Appl
89	21	95.5	22	15	US-10-176-883-140	Sequence 140, Appl	162	20	90.9	22	9	US-09-802-665-8	Sequence 8, Appl
90	21	95.5	22	15	US-10-176-883-141	Sequence 141, Appl	163	20	90.9	22	9	US-09-802-376-8	Sequence 8, Appl
91	21	95.5	22	15	US-10-177-826-69	Sequence 69, Appl	164	20	90.9	22	9	US-09-802-370-8	Sequence 8, Appl
92	21	95.5	22	15	US-10-177-826-76	Sequence 76, Appl	165	20	90.9	22	9	US-09-802-445-8	Sequence 8, Appl
93	21	95.5	22	15	US-10-177-826-80	Sequence 80, Appl	166	20	90.9	22	10	US-09-927-422A-8	Sequence 8, Appl
94	21	95.5	22	15	US-10-177-826-86	Sequence 86, Appl	167	20	90.9	22	10	US-09-927-884-8	Sequence 8, Appl
95	21	95.5	22	15	US-10-177-826-140	Sequence 140, Appl	168	20	90.9	22	10	US-09-802-359-8	Sequence 8, Appl
96	21	95.5	22	15	US-10-177-826-141	Sequence 141, Appl	169	20	90.9	22	14	US-10-033-243-58	Sequence 38, Appl
97	21	95.5	22	15	US-10-357-760-7	Sequence 7, Appl	170	20	90.9	22	14	US-10-033-243-8	Sequence 48, Appl
98	21	95.5	22	15	US-10-328-578-69	Sequence 69, Appl	171	20	90.9	22	15	US-10-176-883-87	Sequence 87, Appl
99	21	95.5	22	15	US-10-328-578-76	Sequence 76, Appl	172	20	90.9	22	15	US-10-176-883-87	Sequence 87, Appl
100	21	95.5	22	15	US-10-328-578-80	Sequence 80, Appl	173	20	90.9	22	15	US-10-177-826-77	Sequence 77, Appl
101	21	95.5	22	15	US-10-328-578-86	Sequence 86, Appl	174	20	90.9	22	15	US-10-177-826-87	Sequence 87, Appl
102	21	95.5	22	15	US-10-328-578-134	Sequence 134, Appl	175	20	90.9	22	15	US-10-357-760-8	Sequence 8, Appl
103	21	95.5	22	15	US-10-328-578-135	Sequence 135, Appl	176	20	90.9	22	15	US-10-328-578-77	Sequence 77, Appl
104	21	95.5	22	16	US-10-426-237-7	Sequence 7, Appl	177	20	90.9	22	15	US-10-328-578-87	Sequence 87, Appl
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106	21	95.5	22	17	US-10-623-371-69	Sequence 69, Appl	179	20	90.9	22	16	US-10-365-678-6	Sequence 6, Appl
107	21	95.5	22	17	US-10-623-371-76	Sequence 76, Appl	180	20	90.9	22	17	US-10-623-371-77	Sequence 77, Appl
108	21	95.5	22	17	US-10-623-371-80	Sequence 80, Appl	181	20	90.9	22	17	US-10-623-371-87	Sequence 87, Appl
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121	20.4	92.7	22	9	US-09-774-403A-2	Sequence 2, Appl	194	19.4	88.2	22	15	US-10-176-883-78	Sequence 78, Appl
122	20.4	92.7	22	9	US-09-770-943-2	Sequence 2, Appl	195	19.4	88.2	22	15	US-10-177-826-78	Sequence 78, Appl
123	20.4	92.7	22	9	US-09-802-370-2	Sequence 2, Appl	196	19.4	88.2	22	15	US-10-357-760-6	Sequence 6, Appl
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127	20.4	92.7	22	9	US-09-820-484-2	Sequence 2, Appl	200	19.4	88.2	22	17	US-10-623-371-78	Sequence 78, Appl
128	20.4	92.7	22	9	US-09-820-484-6	Sequence 6, Appl	201	19	86.4	22	17	US-10-735-592-5	Sequence 5, Appl
129	20.4	92.7	22	9	US-09-828-505-2	Sequence 2, Appl	202	19	86.4	25	17	US-10-735-592-23	Sequence 23, Appl
130	20.4	92.7	22	9	US-09-967-881-3	Sequence 3, Appl	203	18.8	85.5	22	9	US-09-802-686-9	Sequence 9, Appl
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132	20.4	92.7	22	10	US-09-927-422A-4	Sequence 4, Appl	205	18.8	85.5	22	9	US-09-802-685-12	Sequence 12, Appl
133	20.4	92.7	22	10	US-09-927-884-2	Sequence 2, Appl	206	18.8	85.5	22	9	US-09-791-500-3	Sequence 3, Appl
134	20.4	92.7	22	10	US-09-927-884-4	Sequence 4, Appl	207	18.8	85.5	22	9	US-09-791-500-8	Sequence 8, Appl
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141	20.4	92.7	22	15	US-10-219-143-4	Sequence 4, Appl	214	18.8	85.5	22	9	US-09-820-484-7	Sequence 7, Appl
142	20.4	92.7	22	15	US-10-219-143-6	Sequence 6, Appl	215	18.8	85.5	22	9	US-09-828-505-4	Sequence 4, Appl
143	20.4	92.7	22	15	US-10-219-143-5	Sequence 5, Appl	216	18.8	85.5	22	9	US-09-967-881-1	Sequence 1, Appl
144	20.4	92.7	22	15	US-10-340-275-2	Sequence 2, Appl	217	18.8	85.5	22	9	US-09-967-881-9	Sequence 9, Appl
145	20.4	92.7	22	15	US-10-340-275-6	Sequence 6, Appl	218	18.8	85.5	22	10	US-09-927-422A-9	Sequence 9, Appl
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151	20.4	92.7	22	15	US-10-353-917-6	Sequence 2, Appl	224	18.8	85.5	22	10	US-09-967-464-20	Sequence 20, Appl
152	20.4	92.7	22	15	US-10-357-760-2	Sequence 2, Appl	225	18.8	85.5	22	10	US-09-848-986-9	Sequence 9, Appl
153	20.4	92.7	22	15	US-10-357-760-4	Sequence 4, Appl	226	18.8	85.5	22	10	US-09-848-986-12	Sequence 12, Appl
154	20.4	92.7	22	16	US-10-413-504-1	Sequence 1, Appl	227	18.8	85.5	22	14	US-10-033-243-8	Sequence 8, Appl
155	20.4	92.7	22	16	US-10-413-504-5	Sequence 5, Appl	228	18.8	85.5	22	14	US-10-033-243-9	Sequence 49, Appl
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157	20.4	92.7	22	16	US-10-413-504-16	Sequence 16, Appl	230	18.8	85.5	22	14	US-10-033-243-60	Sequence 60, Appl
158	20.4	92.7	22	16	US-10-426-237-2	Sequence 2, Appl	231	18.8	85.5	22	14	US-10-033-243-61	Sequence 61, Appl

232	18.8	85.5	22	14	US-10-099-512-3	Sequence 3, Appli	305	17.8	80.9	22	15	US-10-328-578-71	Sequence 71, Appli
233	18.8	85.5	22	14	US-10-099-512-4	Sequence 4, Appli	306	17.8	80.9	22	15	US-10-328-578-72	Sequence 72, Appli
234	18.8	85.5	22	14	US-10-229-208-20	Sequence 20, Appli	307	17.8	80.9	22	15	US-10-328-578-81	Sequence 81, Appli
235	18.8	85.5	22	15	US-10-253-117-33	Sequence 33, Appli	308	17.8	80.9	22	15	US-10-328-578-82	Sequence 82, Appli
236	18.8	85.5	22	15	US-10-233-121A-9	Sequence 9, Appli	309	17.8	80.9	22	15	US-10-328-578-137	Sequence 137, App
237	18.8	85.5	22	15	US-10-233-121A-12	Sequence 12, Appli	310	17.8	80.9	22	15	US-10-328-578-138	Sequence 138, App
238	18.8	85.5	22	15	US-10-219-143-3	Sequence 3, Appli	311	17.8	80.9	22	17	US-10-623-371-71	Sequence 71, Appli
239	18.8	85.5	22	15	US-10-219-143-8	Sequence 8, Appli	312	17.8	80.9	22	17	US-10-623-371-72	Sequence 72, Appli
240	18.8	85.5	22	15	US-10-214-799-1	Sequence 1, Appli	313	17.8	80.9	22	17	US-10-623-371-81	Sequence 81, Appli
241	18.8	85.5	22	15	US-10-340-275-7	Sequence 7, Appli	314	17.8	80.9	22	17	US-10-623-371-82	Sequence 82, Appli
242	18.8	85.5	22	15	US-10-339-885-7	Sequence 7, Appli	315	17.8	80.9	22	17	US-10-623-371-137	Sequence 137, App
243	18.8	85.5	22	15	US-10-176-883-135	Sequence 3, Appli	316	17.8	80.9	22	17	US-10-623-371-138	Sequence 138, App
244	18.8	85.5	22	15	US-10-176-883-30	Sequence 30, Appli	317	17.2	78.2	22	9	US-09-791-500-9	Sequence 9, Appli
245	18.8	85.5	22	15	US-10-176-883-88	Sequence 88, Appli	318	17.2	78.2	22	9	US-09-770-943-4	Sequence 4, Appli
246	18.8	85.5	22	15	US-10-176-883-89	Sequence 89, Appli	319	17.2	78.2	22	10	US-09-967-464-21	Sequence 21, Appli
247	18.8	85.5	22	15	US-10-176-883-135	Sequence 135, App	320	17.2	78.2	22	10	US-09-848-986-14	Sequence 14, Appli
248	18.8	85.5	22	15	US-10-176-883-136	Sequence 136, App	321	17.2	78.2	22	14	US-10-033-243-9	Sequence 9, Appli
249	18.8	85.5	22	15	US-10-412-151-3	Sequence 3, Appli	322	17.2	78.2	22	14	US-10-033-243-16	Sequence 16, Appli
250	18.8	85.5	22	15	US-10-412-151-8	Sequence 8, Appli	323	17.2	78.2	22	14	US-10-033-243-21	Sequence 21, Appli
251	18.8	85.5	22	15	US-10-177-826-3	Sequence 3, Appli	324	17.2	78.2	22	15	US-10-233-121A-14	Sequence 14, Appli
252	18.8	85.5	22	15	US-10-177-826-30	Sequence 30, Appli	325	17.2	78.2	22	15	US-10-219-143-9	Sequence 9, Appli
253	18.8	85.5	22	15	US-10-177-826-88	Sequence 88, Appli	326	17.2	78.2	22	15	US-10-176-883-11	Sequence 11, Appli
254	18.8	85.5	22	15	US-10-177-826-89	Sequence 89, Appli	327	17.2	78.2	22	15	US-10-176-883-18	Sequence 38, Appli
255	18.8	85.5	22	15	US-10-177-826-135	Sequence 135, App	328	17.2	78.2	22	15	US-10-176-883-43	Sequence 43, Appli
256	18.8	85.5	22	15	US-10-177-826-136	Sequence 136, App	329	17.2	78.2	22	15	US-10-412-151-9	Sequence 9, Appli
257	18.8	85.5	22	15	US-10-353-917-3	Sequence 3, Appli	330	17.2	78.2	22	15	US-10-177-826-18	Sequence 38, Appli
258	18.8	85.5	22	15	US-10-328-578-3	Sequence 3, Appli	331	17.2	78.2	22	15	US-10-177-826-31	Sequence 31, Appli
259	18.8	85.5	22	15	US-10-328-578-30	Sequence 30, Appli	332	17.2	78.2	22	15	US-10-177-826-43	Sequence 43, Appli
260	18.8	85.5	22	15	US-10-328-578-88	Sequence 88, Appli	333	17.2	78.2	22	15	US-10-328-578-81	Sequence 31, Appli
261	18.8	85.5	22	15	US-10-328-578-89	Sequence 89, Appli	334	17.2	78.2	22	15	US-10-328-578-38	Sequence 38, Appli
262	18.8	85.5	22	15	US-10-328-578-116	Sequence 116, App	335	17.2	78.2	22	15	US-10-328-578-43	Sequence 43, Appli
263	18.8	85.5	22	15	US-10-394-092-2	Sequence 2, Appli	336	17.2	78.2	22	16	US-10-413-504-9	Sequence 9, Appli
264	18.8	85.5	22	16	US-10-394-387-2	Sequence 2, Appli	337	17.2	78.2	22	16	US-10-413-504-13	Sequence 13, Appli
265	18.8	85.5	22	16	US-10-413-504-3	Sequence 3, Appli	338	17.2	78.2	22	16	US-10-365-678-3	Sequence 3, Appli
266	18.8	85.5	22	16	US-10-413-504-8	Sequence 8, Appli	339	17.2	78.2	22	17	US-10-623-371-31	Sequence 31, Appli
267	18.8	85.5	22	16	US-10-426-237-9	Sequence 9, Appli	340	17.2	78.2	22	17	US-10-623-371-38	Sequence 38, Appli
268	18.8	85.5	22	17	US-10-623-371-3	Sequence 3, Appli	341	17.2	78.2	22	17	US-10-623-371-61	Sequence 31, Appli
269	18.8	85.5	22	17	US-10-623-371-30	Sequence 30, Appli	342	17.2	78.2	22	17	US-10-739-518-31	Sequence 38, Appli
270	18.8	85.5	22	17	US-10-623-371-88	Sequence 88, Appli	343	17.2	78.2	22	17	US-10-739-518-38	Sequence 43, Appli
271	18.8	85.5	22	17	US-10-623-371-89	Sequence 89, Appli	344	17.2	78.2	22	17	US-10-739-518-43	Sequence 43, Appli
272	18.8	85.5	22	17	US-10-623-371-136	Sequence 136, App	345	17.2	78.2	22	17	US-10-739-518-84	Sequence 84, Appli
273	18.8	85.5	22	17	US-10-739-518-3	Sequence 3, Appli	346	17.2	78.2	22	17	US-10-739-518-85	Sequence 85, Appli
274	18.8	85.5	22	17	US-10-739-518-30	Sequence 30, Appli	347	17	77.3	22	14	US-10-033-243-12	Sequence 12, Appli
275	18.8	85.5	22	17	US-10-739-518-88	Sequence 88, Appli	348	17	77.3	22	14	US-10-033-243-45	Sequence 45, Appli
276	18.8	85.5	22	17	US-10-739-518-89	Sequence 89, Appli	349	17	77.3	22	14	US-10-033-243-46	Sequence 46, Appli
277	18.8	85.5	22	17	US-10-739-518-142	Sequence 142, App	350	17	77.3	22	15	US-10-176-883-34	Sequence 34, Appli
278	18.8	85.5	22	17	US-10-739-518-144	Sequence 144, App	351	17	77.3	22	15	US-10-176-883-84	Sequence 84, Appli
279	18.8	85.5	22	17	US-10-033-243-44	Sequence 44, Appli	352	17	77.3	22	15	US-10-176-883-85	Sequence 85, Appli
280	18.8	85.5	22	15	US-10-176-883-83	Sequence 83, Appli	353	17	77.3	22	15	US-10-176-883-34	Sequence 34, Appli
281	18.8	85.5	22	15	US-10-176-883-83	Sequence 83, Appli	354	17	77.3	22	15	US-10-176-883-84	Sequence 84, Appli
282	18.8	85.5	22	15	US-10-328-578-83	Sequence 83, Appli	355	17	77.3	22	15	US-10-177-826-85	Sequence 85, Appli
283	18.8	85.5	22	15	US-10-623-371-83	Sequence 83, Appli	356	17	77.3	22	15	US-10-328-578-84	Sequence 34, Appli
284	18.8	85.5	22	17	US-10-739-518-83	Sequence 83, Appli	357	17	77.3	22	15	US-10-328-578-84	Sequence 84, Appli
285	18.8	85.5	22	17	US-10-739-518-71	Sequence 71, Appli	358	17	77.3	22	15	US-10-328-578-85	Sequence 85, Appli
286	18.8	85.5	22	17	US-10-739-518-72	Sequence 72, Appli	359	17	77.3	22	17	US-10-623-371-84	Sequence 34, Appli
287	18.8	85.5	22	17	US-10-739-518-81	Sequence 81, Appli	360	17	77.3	22	17	US-10-623-371-84	Sequence 84, Appli
288	18.8	85.5	22	17	US-10-739-518-82	Sequence 82, Appli	361	17	77.3	22	17	US-10-623-371-85	Sequence 85, Appli
289	17.8	80.9	22	14	US-10-033-243-33	Sequence 33, Appli	362	17	77.3	22	17	US-10-739-518-74	Sequence 34, Appli
290	17.8	80.9	22	14	US-10-033-243-34	Sequence 34, Appli	363	16.4	74.5	22	14	US-10-033-243-15	Sequence 15, Appli
291	17.8	80.9	22	14	US-10-033-243-42	Sequence 42, Appli	364	16.4	74.5	22	14	US-10-033-243-37	Sequence 37, Appli
292	17.8	80.9	22	14	US-10-033-243-43	Sequence 43, Appli	365	16.4	74.5	22	15	US-10-176-883-17	Sequence 37, Appli
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294	17.8	80.9	22	15	US-10-176-883-72	Sequence 72, Appli	367	16.4	74.5	22	15	US-10-177-826-37	Sequence 37, Appli
295	17.8	80.9	22	15	US-10-176-883-81	Sequence 81, Appli	368	16.4	74.5	22	15	US-10-177-826-92	Sequence 92, Appli
296	17.8	80.9	22	15	US-10-176-883-82	Sequence 82, Appli	369	16.4	74.5	22	15	US-10-328-578-37	Sequence 37, Appli
297	17.8	80.9	22	15	US-10-176-883-137	Sequence 137, App	370	16.4	74.5	22	15	US-10-328-578-92	Sequence 92, Appli
298	17.8	80.9	22	15	US-10-176-883-138	Sequence 138, App	371	16.4	74.5	22	17	US-10-623-371-37	Sequence 37, Appli
299	17.8	80.9	22	15	US-10-177-826-71	Sequence 71, Appli	372	16.4	74.5	22	17	US-10-623-371-82	Sequence 37, Appli
300	17.8	80.9	22	15	US-10-177-826-72	Sequence 72, Appli	373	16.4	74.5	22	17	US-10-739-518-37	Sequence 37, Appli
301	17.8	80.9	22	15	US-10-177-826-81	Sequence 81, Appli	374	16.4	74.5	22	17	US-10-739-518-92	Sequence 92, Appli
302	17.8	80.9	22	15	US-10-177-826-82	Sequence 82, Appli	375	16	74.7	20	10	US-09-848-986-21	Sequence 21, Appli
303	17.8	80.9	22	15	US-10-177-826-137	Sequence 137, App	376	16	72.7	20	15	US-10-233-121A-21	Sequence 21, Appli
304	17.8	80.9	22	15	US-10-177-826-138	Sequence 138, App	377	15.8	71.8	20	10	US-09-848-986-2	Sequence 2, Appli

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379	15.6	70.9	18	17	US-10-739-518-51	Sequence 51, Appli	452	14	63.6	22	17	US-10-623-371-52	Sequence 52, Appli
380	15.6	70.9	22	9	US-09-791-500-2	Sequence 2, Appli	453	14	63.6	22	17	US-10-739-518-52	Sequence 52, Appli
381	15.6	70.9	22	9	US-09-770-943-5	Sequence 5, Appli	454	14	63.6	25	15	US-10-098-263B-42658	Sequence 42658, A
382	15.6	70.9	22	9	US-09-770-943-7	Sequence 7, Appli	455	14	63.6	50	16	US-10-131-827-1158	Sequence 1158, Ap
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384	15.6	70.9	22	10	US-09-848-986-13	Sequence 13, Appli	457	14	63.6	90	15	US-10-029-396-24212	Sequence 24212, A
385	15.6	70.9	22	14	US-10-033-243-10	Sequence 10, Appli	458	14	63.6	90	10	US-09-849-928-258	Sequence 258, App
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389	15.6	70.9	22	15	US-10-412-151-2	Sequence 2, Appli	462	13.8	62.7	25	15	US-10-098-263B-12017	Sequence 12017, A
390	15.6	70.9	22	15	US-10-177-826-32	Sequence 32, Appli	463	13.8	62.7	25	15	US-10-098-263B-25468	Sequence 25468, A
391	15.6	70.9	22	17	US-10-328-578-32	Sequence 32, Appli	464	13.6	61.8	25	15	US-10-098-263B-42028	Sequence 42028, A
392	15.6	70.9	22	17	US-10-623-371-32	Sequence 32, Appli	465	13.6	61.8	41	16	US-10-035-833A-1016	Sequence 1016, Ap
393	15.6	70.9	22	17	US-10-739-518-32	Sequence 32, Appli	466	13.6	61.8	41	16	US-10-035-833A-1374	Sequence 1374, Ap
394	15.4	70.0	18	14	US-10-033-243-29	Sequence 29, Appli	467	13.6	61.8	60	10	US-09-908-975-16079	Sequence 16079, A
395	15.4	70.0	18	15	US-10-176-883-51	Sequence 51, Appli	468	13.6	61.8	85	9	US-09-864-761-23028	Sequence 23028, A
396	15.4	70.0	18	15	US-10-177-826-51	Sequence 51, Appli	469	13.4	60.9	25	15	US-10-098-263B-70180	Sequence 70180, A
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399	15.4	70.0	21	16	US-10-413-504-10	Sequence 10, Appli	472	13.2	60.0	23	17	US-10-739-518-80	Sequence 80, Appli
400	15.4	70.0	21	16	US-10-413-504-11	Sequence 11, Appli	473	13.2	60.0	25	15	US-10-098-263B-26762	Sequence 26762, A
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407	15	68.2	23	10	US-09-927-422A-3	Sequence 3, Appli	480	13.2	60.0	74	9	US-09-902-941-1592	Sequence 1592, Ap
408	15	68.2	23	10	US-09-927-884-3	Sequence 3, Appli	481	13.2	60.0	74	9	US-09-849-628-1592	Sequence 1592, Ap
409	15	68.2	23	10	US-09-802-359-3	Sequence 3, Appli	482	13.2	60.0	74	9	US-10-017-754-1592	Sequence 1592, Ap
410	15	68.2	23	15	US-10-357-760-3	Sequence 3, Appli	483	13.2	60.0	74	14	US-10-017-754-1592	Sequence 1592, Ap
411	15	68.2	23	15	US-10-413-504-4	Sequence 4, Appli	484	13.2	60.0	74	15	US-10-113-872-1592	Sequence 1592, Ap
412	15	68.2	23	16	US-10-426-237-3	Sequence 3, Appli	485	13.2	60.0	77	15	US-10-283-017-1592	Sequence 1592, Ap
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414	14.8	67.3	18	15	US-10-176-883-36	Sequence 36, Appli	487	13.2	60.0	84	13	US-10-071-766-90	Sequence 90, Appli
415	14.8	67.3	18	15	US-10-177-826-36	Sequence 36, Appli	488	13.2	60.0	87	17	US-10-646-620A-9	Sequence 9, Appli
416	14.8	67.3	18	15	US-10-328-578-36	Sequence 36, Appli	489	13	59.1	20	14	US-10-033-243-40	Sequence 20, Appli
417	14.8	67.3	18	17	US-10-623-371-36	Sequence 36, Appli	490	13	59.1	20	15	US-10-176-883-42	Sequence 42, Appli
418	14.8	67.3	18	17	US-10-739-518-36	Sequence 36, Appli	491	13	59.1	20	15	US-10-177-826-42	Sequence 42, Appli
419	14.6	66.4	25	15	US-10-098-263B-4451	Sequence 4451, Ap	492	13	59.1	20	15	US-10-328-578-42	Sequence 42, Appli
420	14.6	66.4	25	15	US-10-098-263B-5087	Sequence 5087, Ap	493	13	59.1	20	17	US-10-623-371-42	Sequence 42, Appli
421	14.6	66.4	65	10	US-09-908-975-25928	Sequence 25928, A	494	13	59.1	20	17	US-10-739-518-42	Sequence 42, Appli
422	14.4	65.5	22	15	US-10-302-098-1	Sequence 1, Appli	495	13	59.1	25	15	US-10-098-263B-4452	Sequence 4452, Ap
423	14.2	64.5	19	17	US-10-739-518-45	Sequence 45, Appli	496	13	59.1	25	15	US-10-098-263B-5088	Sequence 5088, Ap
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428	14	63.6	19	15	US-10-033-243-24	Sequence 24, Appli	501	13	59.1	50	16	US-10-131-827-7498	Sequence 7498, Ap
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430	14	63.6	19	15	US-10-176-883-45	Sequence 45, Appli	503	13	59.1	60	10	US-09-908-975-17896	Sequence 17896, A
431	14	63.6	19	15	US-10-176-883-46	Sequence 46, Appli	504	13	59.1	65	10	US-09-908-975-22921	Sequence 22921, A
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433	14	63.6	19	15	US-10-177-826-45	Sequence 45, Appli	506	13	59.1	69	9	US-09-785-633A-34	Sequence 34, Appli
434	14	63.6	19	15	US-10-177-826-45	Sequence 45, Appli	507	13	59.1	91	15	US-10-223-765-34	Sequence 34, Appli
435	14	63.6	19	15	US-10-328-578-41	Sequence 41, Appli	508	13	59.1	91	9	US-09-864-761-32225	Sequence 32225, A
436	14	63.6	19	15	US-10-328-578-45	Sequence 45, Appli	509	12.8	58.2	16	14	US-10-068-160-89	Sequence 89, Appli
437	14	63.6	19	15	US-10-328-578-46	Sequence 46, Appli	510	12.8	58.2	16	15	US-10-194-035-116	Sequence 116, App
438	14	63.6	19	17	US-10-623-371-41	Sequence 41, Appli	511	12.8	58.2	20	16	US-10-289-762-1341	Sequence 1341, Ap
439	14	63.6	19	17	US-10-623-371-45	Sequence 45, Appli	512	12.8	58.2	25	14	US-10-215-112-1304	Sequence 1304, Ap
440	14	63.6	19	17	US-10-623-371-46	Sequence 46, Appli	513	12.8	58.2	25	14	US-10-215-112-1304	Sequence 1304, Ap
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443	14	63.6	20	15	US-10-176-883-93	Sequence 93, Appli	516	12.8	58.2	41	16	US-10-035-833A-740	Sequence 740, App
444	14	63.6	20	15	US-10-177-826-93	Sequence 93, Appli	517	12.8	58.2	41	16	US-10-035-833A-6331	Sequence 6331, Ap
445	14	63.6	20	15	US-10-328-578-93	Sequence 93, Appli	518	12.8	58.2	60	10	US-09-908-975-50105	Sequence 50105, A
446	14	63.6	20	17	US-10-623-371-93	Sequence 93, Appli	519	12.8	58.2	77	10	US-09-860-474-17	Sequence 17, Appli
447	14	63.6	20	17	US-10-739-518-93	Sequence 93, Appli	520	12.8	57.3	20	10	US-10-409-565-17	Sequence 17, Appli
448	14	63.6	22	14	US-10-033-243-30	Sequence 30, Appli	521	12.6	57.3	20	10	US-09-995-793A-60	Sequence 60, Appli
449	14	63.6	22	15	US-10-176-883-52	Sequence 52, Appli	522	12.6	57.3	25	15	US-10-098-263B-19163	Sequence 19163, A
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C 526	12.6	57.3	25	16	US-10-215-890-8	Sequence 8, Appl1	C 599	12.4	56.4	65	10	US-09-908-975-4556	Sequence 4556, Ap
C 527	12.6	57.3	25	16	US-10-281-076-8	Sequence 8, Appl1	C 600	12.4	56.4	65	10	US-09-908-975-23821	Sequence 23821, A
C 528	12.6	57.3	26	10	US-09-997-4425-78	Sequence 78, Appl1	601	12.4	56.4	65	10	US-09-908-975-82884	Sequence 28284, A
C 529	12.6	57.3	26	10	US-09-997-5594-37	Sequence 37, Appl1	602	12.4	56.4	65	10	US-09-908-975-29304	Sequence 29304, A
C 530	12.6	57.3	26	10	US-09-997-5594-35	Sequence 35, Appl1	C 603	12.4	56.4	65	10	US-09-908-975-29739	Sequence 29739, A
C 531	12.6	57.3	26	16	US-10-287-971-372	Sequence 372, Ap	604	12.4	56.4	73	14	US-10-077-319-33	Sequence 33, Appl1
C 532	12.6	57.3	27	10	US-09-902-214-60	Sequence 60, Appl1	C 605	12.4	56.4	80	16	US-10-384-245-81	Sequence 43, Appl1
C 533	12.6	57.3	30	15	US-10-340-860A-12	Sequence 12, Appl1	C 606	12.4	56.4	90	15	US-10-029-386-17261	Sequence 17261, A
C 534	12.6	57.3	42	15	US-10-340-414-84	Sequence 82, Appl1	C 607	12.2	55.5	17	9	US-09-827-998-93	Sequence 93, Appl1
C 535	12.6	57.3	42	15	US-10-340-414-84	Sequence 84, Appl1	C 608	12.2	55.5	17	15	US-10-060-998-1238	Sequence 1238, Ap
C 536	12.6	57.3	42	15	US-10-340-414-88	Sequence 88, Appl1	C 609	12.2	55.5	17	16	US-10-675-685-93	Sequence 93, Appl1
C 537	12.6	57.3	42	15	US-10-340-414-90	Sequence 90, Appl1	C 610	12.2	55.5	19	9	US-09-969-373-3851	Sequence 3851, Ap
C 538	12.6	57.3	42	15	US-10-340-414-91	Sequence 91, Appl1	C 611	12.2	55.5	20	9	US-09-969-632-21	Sequence 21, Appl1
C 539	12.6	57.3	42	15	US-10-340-414-93	Sequence 93, Appl1	612	12.2	55.5	20	10	US-09-995-793A-56	Sequence 56, Appl1
C 540	12.6	57.3	57	9	US-09-739-936-3	Sequence 3, Appl1	613	12.2	55.5	21	18	US-10-786-720-11119	Sequence 11119, A
C 541	12.6	57.3	60	10	US-09-908-975-9920	Sequence 920, Ap	614	12.2	55.5	21	18	US-10-786-720-11120	Sequence 11120, A
C 542	12.6	57.3	60	10	US-09-908-975-10648	Sequence 10648, A	C 615	12.2	55.5	21	18	US-10-786-720-11121	Sequence 11121, A
C 543	12.6	57.3	60	10	US-09-908-975-19354	Sequence 19354, A	C 616	12.2	55.5	25	9	US-09-827-998-908	Sequence 908, Ap
C 544	12.6	57.3	61	9	US-09-795-668-1340	Sequence 1340, Ap	C 617	12.2	55.5	25	9	US-09-827-998-909	Sequence 909, Ap
C 545	12.6	57.3	61	9	US-09-795-668-1340	Sequence 1340, Ap	C 618	12.2	55.5	25	9	US-09-827-998-910	Sequence 910, Ap
C 546	12.6	57.3	61	9	US-09-946-807-1340	Sequence 1340, Ap	C 619	12.2	55.5	25	9	US-09-827-998-911	Sequence 911, Ap
C 547	12.6	57.3	65	10	US-09-908-975-4458	Sequence 4458, Ap	C 620	12.2	55.5	25	9	US-09-827-998-912	Sequence 912, Ap
C 548	12.6	57.3	65	10	US-09-908-975-24946	Sequence 24946, A	C 621	12.2	55.5	25	9	US-09-827-998-913	Sequence 913, Ap
C 549	12.6	57.3	65	10	US-09-908-975-24946	Sequence 24946, A	C 622	12.2	55.5	25	9	US-09-827-998-914	Sequence 914, Appl
C 550	12.6	57.3	77	10	US-09-860-474-21	Sequence 21, Appl1	C 623	12.2	55.5	25	9	US-09-827-998-915	Sequence 915, Ap
C 551	12.6	57.3	77	15	US-10-409-565-21	Sequence 21, Appl1	C 624	12.2	55.5	25	9	US-09-827-998-916	Sequence 916, Ap
C 552	12.6	57.3	80	16	US-10-384-245-111	Sequence 131, Ap	C 625	12.2	55.5	25	14	US-10-215-11735	Sequence 11735, A
C 553	12.6	57.3	80	16	US-10-384-245-650	Sequence 650, Ap	C 626	12.2	55.5	25	15	US-10-098-263B-12018	Sequence 12018, A
C 554	12.4	56.4	19	14	US-10-033-243-56	Sequence 56, Appl1	C 627	12.2	55.5	25	15	US-10-098-263B-125467	Sequence 25467, A
C 555	12.4	56.4	19	14	US-10-033-243-57	Sequence 57, Appl1	C 628	12.2	55.5	25	15	US-10-098-263B-40489	Sequence 40489, A
C 556	12.4	56.4	19	15	US-10-176-883-94	Sequence 94, Appl1	C 629	12.2	55.5	25	15	US-10-098-263B-47062	Sequence 47062, A
C 557	12.4	56.4	19	15	US-10-176-883-95	Sequence 95, Appl1	C 630	12.2	55.5	25	15	US-10-098-263B-60148	Sequence 60148, A
C 558	12.4	56.4	19	15	US-10-177-826-94	Sequence 94, Appl1	C 631	12.2	55.5	25	15	US-10-098-263B-92603	Sequence 92603, A
C 559	12.4	56.4	19	15	US-10-177-826-95	Sequence 95, Appl1	C 632	12.2	55.5	25	15	US-10-060-998-2744	Sequence 2744, Ap
C 560	12.4	56.4	19	15	US-10-328-578-94	Sequence 94, Appl1	C 633	12.2	55.5	25	15	US-10-060-998-2745	Sequence 2745, Ap
C 561	12.4	56.4	19	15	US-10-328-578-95	Sequence 95, Appl1	C 634	12.2	55.5	25	15	US-10-098-263B-116340	Sequence 116340, A
C 562	12.4	56.4	19	17	US-10-623-371-94	Sequence 94, Appl1	C 635	12.2	55.5	25	15	US-10-060-998-2742	Sequence 2742, Ap
C 563	12.4	56.4	19	17	US-10-623-371-95	Sequence 95, Appl1	C 636	12.2	55.5	25	15	US-10-060-998-2743	Sequence 2743, Ap
C 564	12.4	56.4	19	17	US-10-739-518-94	Sequence 94, Appl1	C 637	12.2	55.5	25	15	US-10-060-998-2744	Sequence 2744, Ap
C 565	12.4	56.4	19	17	US-10-739-518-95	Sequence 95, Appl1	C 638	12.2	55.5	25	15	US-10-060-998-2745	Sequence 2745, Ap
C 566	12.4	56.4	20	9	US-09-824-468-11	Sequence 11, Appl1	C 639	12.2	55.5	25	15	US-10-060-998-2746	Sequence 2746, Ap
C 567	12.4	56.4	20	9	US-09-800-266A-91	Sequence 91, Appl1	C 640	12.2	55.5	25	15	US-10-060-998-2747	Sequence 2747, Ap
C 568	12.4	56.4	20	9	US-09-895-007A-91	Sequence 91, Appl1	C 641	12.2	55.5	25	15	US-10-060-998-2748	Sequence 2748, Ap
C 569	12.4	56.4	20	9	US-09-920-313-91	Sequence 91, Appl1	C 642	12.2	55.5	25	15	US-10-060-998-2749	Sequence 2749, Ap
C 570	12.4	56.4	20	13	US-10-023-909A-91	Sequence 91, Appl1	C 643	12.2	55.5	25	15	US-10-060-998-2750	Sequence 2750, Ap
C 571	12.4	56.4	20	14	US-10-300-247-91	Sequence 91, Appl1	C 644	12.2	55.5	25	16	US-10-675-685-908	Sequence 908, Ap
C 572	12.4	56.4	20	15	US-10-434-696-91	Sequence 91, Appl1	C 645	12.2	55.5	25	16	US-10-675-685-909	Sequence 909, Ap
C 573	12.4	56.4	20	17	US-10-666-733-91	Sequence 91, Appl1	C 646	12.2	55.5	25	16	US-10-675-685-910	Sequence 910, Ap
C 574	12.4	56.4	23	9	US-09-813-781-87	Sequence 87, Appl1	C 647	12.2	55.5	25	16	US-10-675-685-911	Sequence 911, Ap
C 575	12.4	56.4	25	14	US-10-215-112-7961	Sequence 7961, Ap	C 648	12.2	55.5	25	16	US-10-675-685-912	Sequence 912, Ap
C 576	12.4	56.4	25	14	US-10-215-112-8087	Sequence 8087, Ap	C 649	12.2	55.5	25	16	US-10-675-685-913	Sequence 913, Ap
C 577	12.4	56.4	25	15	US-10-098-263B-783	Sequence 283, Ap	C 650	12.2	55.5	25	16	US-10-675-685-914	Sequence 914, Ap
C 578	12.4	56.4	25	15	US-10-098-263B-42657	Sequence 42657, A	C 651	12.2	55.5	25	16	US-10-675-685-915	Sequence 915, Ap
C 579	12.4	56.4	25	15	US-10-098-263B-59876	Sequence 59876, A	C 652	12.2	55.5	25	16	US-10-675-685-916	Sequence 916, Ap
C 580	12.4	56.4	26	9	US-09-347-064-19	Sequence 19, Appl1	C 653	12.2	55.5	25	17	US-10-629-313-96	Sequence 96, Appl1
C 581	12.4	56.4	32	15	US-10-027-736A-59	Sequence 59, Appl1	C 654	12.2	55.5	29	9	US-09-879-919-9	Sequence 10, Appl1
C 582	12.4	56.4	34	9	US-09-870-756-23	Sequence 23, Appl1	C 655	12.2	55.5	29	13	US-10-082-260-10	Sequence 10, Appl1
C 583	12.4	56.4	34	9	US-09-874-585B-23	Sequence 23, Appl1	C 656	12.2	55.5	29	15	US-10-268-951-10	Sequence 721, Appl1
C 584	12.4	56.4	42	16	US-10-035-833A-2255	Sequence 2255, Ap	C 657	12.2	55.5	47	15	US-10-170-097-721	Sequence 948, Ap
C 585	12.4	56.4	47	13	US-10-027-633-176332	Sequence 176332, Ap	C 658	12.2	55.5	47	15	US-10-170-097-721	Sequence 948, Ap
C 586	12.4	56.4	47	15	US-10-027-633-176332	Sequence 176332, Ap	C 659	12.2	55.5	53	8	US-08-911-824-99	Sequence 99, Appl1
C 587	12.4	56.4	50	16	US-10-131-827-2871	Sequence 2871, Ap	C 660	12.2	55.5	60	8	US-08-911-824-98	Sequence 98, Appl1
C 588	12.4	56.4	50	16	US-10-131-827-4553	Sequence 4553, Ap	C 661	12.2	55.5	60	10	US-09-908-975-11778	Sequence 11748, A
C 589	12.4	56.4	50	16	US-10-131-827-6548	Sequence 6548, Ap	C 662	12.2	55.5	60	10	US-09-908-975-13912	Sequence 13912, A
C 590	12.4	56.4	50	16	US-10-131-827-6938	Sequence 6938, Ap	C 663	12.2	55.5	60	10	US-09-908-975-17779	Sequence 17779, A
C 591	12.4	56.4	60	10	US-09-908-975-8877	Sequence 8877, Ap	C 664	12.2	55.5	60	10	US-09-908-975-18093	Sequence 18093, A
C 592	12.4	56.4	60	10	US-09-908-975-10390	Sequence 10390, A	C 665	12.2	55.5	60	10	US-09-908-975-11668	Sequence 18638, A
C 593	12.4	56.4	60	10	US-09-908-975-13018	Sequence 13018, A	C 666	12.2	55.5	60	17	US-10-655-579-915	Sequence 11638, A
C 594	12.4	56.4	60	10	US-09-908-975-16366	Sequence 16366, A	C 667	12.2	55.5	65	10	US-09-908-975-3403	Sequence 3403, Ap
C 595	12.4	56.4	60	10	US-09-908-975-17831	Sequence 17831, A	C 668	12.2	55.5	65	10	US-09-908-975-3541	Sequence 3541, Ap
C 596	12.4	56.4	60	10	US-09-908-975-22681	Sequence 22681, A	C 669	12.2	55.5	65	10	US-09-908-975-30011	Sequence 30011, A

C 670	12.2	55.5	65	10	US-09-908-975-30420	Sequence 30420, A	743	12	54.5	96	16	US-10-282-122A-16698	Sequence 16698, A
C 671	12.2	55.5	65	10	US-09-908-975-30839	Sequence 30839, A	C 744	11.8	53.6	20	14	US-10-068-160-88	Sequence 88, Appl
C 672	12.2	55.5	75	18	US-10-729-581-65	Sequence 65, Appl	C 745	11.8	53.6	21	11	US-09-874-991C-311	Sequence 311, Appl
C 673	12.2	55.5	75	18	US-10-729-581-235	Sequence 235, Appl	C 746	11.8	53.6	21	15	US-10-325-881-28	Sequence 28, Appl
C 674	12.2	55.5	79	15	US-10-406-903-90	Sequence 90, Appl	C 747	11.8	53.6	22	11	US-09-874-991C-330	Sequence 330, Appl
C 675	12.2	55.5	87	9	US-09-938-700-17	Sequence 17, Appl	C 748	11.8	53.6	24	11	US-09-874-991C-583	Sequence 583, Appl
C 676	12.2	55.5	87	15	US-10-029-386-21596	Sequence 21596, A	C 749	11.8	53.6	25	9	US-09-893-238-29	Sequence 29, Appl
C 677	12.2	54.5	20	14	US-10-144-577-32	Sequence 32, Appl	C 750	11.8	53.6	25	14	US-10-215-112-6568	Sequence 6568, Ap
C 678	12.2	54.5	20	17	US-10-304-098-33	Sequence 33, Appl	C 751	11.8	53.6	25	15	US-10-098-263B-10837	Sequence 3877, Ap
C 679	12.2	54.5	21	9	US-09-995-225-66	Sequence 66, Appl	C 752	11.8	53.6	25	15	US-10-098-263B-20188	Sequence 20188, A
C 680	12.2	54.5	21	10	US-09-995-225-66	Sequence 66, Appl	C 753	11.8	53.6	25	15	US-10-098-263B-10311	Sequence 33911, A
C 681	12.2	54.5	21	17	US-10-702-486-117	Sequence 117, Appl	C 754	11.8	53.6	25	15	US-10-098-263B-55877	Sequence 55877, A
C 682	12.2	54.5	24	10	US-09-940-185-970	Sequence 970, Appl	C 755	11.8	53.6	25	15	US-10-098-263B-56697	Sequence 56697, A
C 683	12.2	54.5	25	15	US-10-098-263B-12199	Sequence 12199, A	C 756	11.8	53.6	25	15	US-10-098-263B-56697	Sequence 56697, A
C 684	12.2	54.5	25	15	US-10-098-263B-24029	Sequence 24029, A	C 757	11.8	53.6	25	15	US-10-098-263B-56698	Sequence 56698, A
C 685	12.2	54.5	25	15	US-10-098-263B-11339	Sequence 41399, A	C 758	11.8	53.6	25	15	US-10-098-263B-63756	Sequence 63756, A
C 686	12.2	54.5	25	15	US-10-098-263B-42037	Sequence 42037, A	C 759	11.8	53.6	25	15	US-10-098-263B-68254	Sequence 68254, A
C 687	12.2	54.5	25	15	US-10-098-263B-43627	Sequence 43627, A	C 760	11.8	53.6	25	15	US-10-098-263B-70179	Sequence 70179, A
C 688	12.2	54.5	25	15	US-10-098-263B-43628	Sequence 43628, A	C 761	11.8	53.6	25	15	US-10-098-263B-70806	Sequence 70806, A
C 689	12.2	54.5	25	15	US-10-098-263B-55877	Sequence 55877, A	C 762	11.8	53.6	25	15	US-10-098-263B-70806	Sequence 70806, A
C 690	12.2	54.5	25	15	US-10-098-263B-56070	Sequence 56070, A	C 763	11.8	53.6	25	15	US-10-098-263B-72308	Sequence 72308, A
C 691	12.2	54.5	25	15	US-10-098-263B-64618	Sequence 64618, A	C 764	11.8	53.6	25	15	US-10-098-263B-97442	Sequence 97442, A
C 692	12.2	54.5	25	15	US-10-098-263B-75295	Sequence 75295, A	C 765	11.8	53.6	25	15	US-10-098-263B-103836	Sequence 103836, A
C 693	12.2	54.5	25	15	US-10-098-263B-77302	Sequence 77302, A	C 766	11.8	53.6	25	15	US-10-098-263B-120956	Sequence 120956, A
C 694	12.2	54.5	25	15	US-10-098-263B-80967	Sequence 80967, A	C 767	11.8	53.6	25	15	US-10-098-263B-125843	Sequence 125843, A
C 695	12.2	54.5	25	15	US-10-098-263B-106850	Sequence 106850, A	C 768	11.8	53.6	26	11	US-09-874-991C-14	Sequence 14, Appl
C 696	12.2	54.5	25	15	US-10-098-263B-108768	Sequence 108768, A	C 769	11.8	53.6	27	9	US-09-836-077-20	Sequence 20, Appl
C 697	12.2	54.5	25	15	US-10-098-263B-130232	Sequence 130232, A	C 770	11.8	53.6	27	10	US-09-996-008B-24	Sequence 24, Appl
C 698	12.2	54.5	25	17	US-10-775-169-1630	Sequence 1630, Appl	C 771	11.8	53.6	28	10	US-09-996-008B-25	Sequence 25, Appl
C 699	12.2	54.5	31	9	US-09-801-274-393	Sequence 393, Appl	C 772	11.8	53.6	28	11	US-09-874-991C-56	Sequence 56, Appl
C 700	12.2	54.5	31	17	US-10-163-863A-20	Sequence 20, Appl	C 773	11.8	53.6	32	9	US-09-837-644-4	Sequence 4, Appl1
C 701	12.2	54.5	32	10	US-09-933-419-6	Sequence 6, Appl1	C 774	11.8	53.6	32	14	US-10-027-760-4	Sequence 4, Appl1
C 702	12.2	54.5	32	16	US-10-612-779-103	Sequence 103, Appl	C 775	11.8	53.6	38	17	US-10-712-672-3686	Sequence 3686, Ap
C 703	12.2	54.5	34	15	US-10-125-994A-69	Sequence 69, Appl	C 776	11.8	53.6	40	11	US-09-874-991C-445	Sequence 445, Appl
C 704	12.2	54.5	42	16	US-10-035-833A-3661	Sequence 3661, Appl	C 777	11.8	53.6	40	11	US-09-874-991C-580	Sequence 580, Appl
C 705	12.2	54.5	43	13	US-10-027-633-177600	Sequence 177600, A	C 778	11.8	53.6	41	16	US-10-035-833A-3028	Sequence 3029, Appl
C 706	12.2	54.5	43	15	US-10-027-633-177600	Sequence 177600, A	C 779	11.8	53.6	41	16	US-10-035-833A-4925	Sequence 4925, Appl
C 707	12.2	54.5	45	15	US-10-156-995-224	Sequence 224, Appl	C 780	11.8	53.6	47	9	US-09-837-644-3	Sequence 3, Appl1
C 708	12.2	54.5	50	16	US-10-131-827-4069	Sequence 4069, Appl	C 781	11.8	53.6	47	14	US-10-027-760-3	Sequence 3, Appl1
C 709	12.2	54.5	53	9	US-09-746-359A-31	Sequence 31, Appl	C 782	11.8	53.6	60	10	US-09-908-975-1217	Sequence 9217, Ap
C 710	12.2	54.5	53	9	US-09-951-268-16	Sequence 16, Appl	C 783	11.8	53.6	60	10	US-09-908-975-16317	Sequence 16317, A
C 711	12.2	54.5	53	16	US-10-424-658-31	Sequence 31, Appl	C 784	11.8	53.6	65	10	US-09-908-975-24446	Sequence 24446, A
C 712	12.2	54.5	58	15	US-10-095-373A-27	Sequence 27, Appl	C 785	11.8	53.6	65	10	US-09-908-975-24446	Sequence 24446, A
C 713	12.2	54.5	58	15	US-10-095-373A-28	Sequence 28, Appl	C 786	11.8	53.6	69	9	US-09-908-975-27504	Sequence 27504, A
C 714	12.2	54.5	60	10	US-09-908-975-5554	Sequence 5554, Appl	C 787	11.8	53.6	69	14	US-10-027-760-9	Sequence 9, Appl1
C 715	12.2	54.5	60	10	US-09-908-975-8196	Sequence 8196, Appl	C 788	11.8	53.6	77	10	US-09-860-474-36	Sequence 36, Appl
C 716	12.2	54.5	60	10	US-09-908-975-15268	Sequence 15268, A	C 789	11.8	53.6	77	15	US-10-409-565-36	Sequence 36, Appl
C 717	12.2	54.5	60	10	US-09-908-975-1182	Sequence 1182, A	C 790	11.6	52.7	21	10	US-09-845-042-10	Sequence 10, Appl
C 718	12.2	54.5	60	10	US-09-908-975-18082	Sequence 18082, A	C 791	11.6	52.7	21	16	US-10-349-183-6091	Sequence 6091, Ap
C 719	12.2	54.5	60	10	US-09-908-975-19556	Sequence 19556, A	C 792	11.6	52.7	21	18	US-10-786-720-13183	Sequence 13183, A
C 720	12.2	54.5	60	10	US-09-908-975-31454	Sequence 31454, A	C 793	11.6	52.7	25	15	US-10-098-263B-5622	Sequence 5622, Ap
C 721	12.2	54.5	60	15	US-10-095-373A-33	Sequence 33, Appl	C 794	11.6	52.7	25	15	US-10-098-263B-11288	Sequence 11288, A
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## ALIGNMENTS

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; APPLICANT: Dynavax Technologies Corporation
; APPLICANT: Van Nest, Gary
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; TITLE OF INVENTION: RESPIRATORY VIRAL INFECTION USING IMMUNOMODULATORY
; FILE REFERENCE: 377882000900
; CURRENT APPLICATION NUMBER: US/09/802,686
; CURRENT FILING DATE: 2001-03-09
; PRIOR APPLICATION NUMBER: 60/188,583
; PRIOR FILING DATE: 2000-03-10
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; APPLICANT: Van Nest, Gary
; APPLICANT: Eiden, Joseph J., Jr.
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; TITLE OF INVENTION: INFECTIONS USING IMMUNOMODULATORY POLYNUCLEOTIDE SEQUENCES
; FILE REFERENCE: 377882001600
; CURRENT APPLICATION NUMBER: US/09/802,685
; CURRENT FILING DATE: 2001-03-09
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RESULT 3
US-09-791-500-1
; Sequence 1, Application US/09791500
; Patent No. US20020042387A1
; GENERAL INFORMATION:
; APPLICANT: Raz, Eyal
; APPLICANT: Rachmilewitz, Daniel
; TITLE OF INVENTION: Method for Treating Inflammatory Bowel
; TITLE OF INVENTION: Disease and Other Forms of Gastrointestinal Inflammation.
; FILE REFERENCE: 6510-2020S1
; CURRENT APPLICATION NUMBER: US/09/791,500
; CURRENT FILING DATE: 2001-02-22
; NUMBER OF SEQ ID NOS: 39
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 1
; LENGTH: 22
; TYPE: DNA
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: synthetic polynucleotide sequence
US-09-791-500-1
```

```
Query Match 100.0%; Score 22; DB 9; Length 22;
Best Local Similarity 100.0%; Pred. No. 0.36;
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
```

```
Qy 1 TGACTGTGAACGTCGAGATGA 22
Db 1 TGACTGTGAACGTCGAGATGA 22
```

```
RESULT 4
US-09-802-376-1
; Sequence 1, Application US/09802376
; Patent No. US20020055477A1
```

```

; GENERAL INFORMATION:
; APPLICANT: Van Nest, Gary
; APPLICANT: Tuck, Stephen
; TITLE OF INVENTION: IMMUNOMODULATORY FORMULATIONS AND METHODS FOR USE THEREOF
; FILE REFERENCE: 37788201700
; CURRENT APPLICATION NUMBER: US/09/802,376
; PRIOR FILING DATE: 2001-03-09
; PRIOR APPLICATION NUMBER: 60/188,557
; NUMBER OF SEQ ID NOS: 11
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 1
; LENGTH: 22
; TYPE: DNA
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Polynucleotide containing CG
US-09-802-376-1

Query Match          100.0%; Score 22; DB 9; Length 22;
Best Local Similarity 100.0%; Pred. No. 0.36;
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 TGACTGTGAACGTTGAGATGA 22
Db 1 TGACTGTGAACGTTGAGATGA 22

RESULT 5
US-09-774-403A-1
; Sequence 1, Application US/09774403A
; Publication No. US20020086295A1
; GENERAL INFORMATION:
; APPLICANT: Eyal Raz
; APPLICANT: Richard Kornbluth
; APPLICANT: Antonio Catanzaro
; APPLICANT: Tomoko Hayashi
; APPLICANT: Dennis Carson
; TITLE OF INVENTION: Immunomodulatory Polynucleotides in
; TITLE OF INVENTION: Treatment of Infection by an Intracellular Pathogen
; FILE REFERENCE: UCAL166
; CURRENT APPLICATION NUMBER: US/09/774,403A
; CURRENT FILING DATE: 2002-04-15
; PRIOR APPLICATION NUMBER: 60/179,353
; PRIOR FILING DATE: 2000-01-31
; NUMBER OF SEQ ID NOS: 7
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 1
; LENGTH: 22
; TYPE: DNA
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Immunomodulatory sequence
US-09-774-403A-1

Query Match          100.0%; Score 22; DB 9; Length 22;
Best Local Similarity 100.0%; Pred. No. 0.36;
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 TGACTGTGAACGTTGAGATGA 22
Db 1 TGACTGTGAACGTTGAGATGA 22

RESULT 6
US-09-802-370-1
; Sequence 1, Application US/09802370
; Patent No. US20020098199A1
; GENERAL INFORMATION:
; APPLICANT: Van Nest, Gary
; APPLICANT: Eiden, Joseph J. Jr.
; TITLE OF INVENTION: METHODS OF SUPPRESSING HEPATITIS VIRUS
; TITLE OF INVENTION: INFECTION USING IMMUNOMODULATORY POLYNUCLEOTIDE SEQUENCES
```

```

; FILE REFERENCE: 377882001200
; CURRENT APPLICATION NUMBER: US/09/802,370
; CURRENT FILING DATE: 2001-09-24
; PRIOR APPLICATION NUMBER: 60/188,301
; PRIOR FILING DATE: 2000-03-10
; NUMBER OF SEQ ID NOS: 8
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 1
; LENGTH: 22
; TYPE: DNA
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Polynucleotide containing CG
US-09-802-370-1

Query Match          100.0%; Score 22; DB 9; Length 22;
Best Local Similarity 100.0%; Pred. No. 0.36;
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 TGACTGTGAACGTTGAGATGA 22
Db 1 TGACTGTGAACGTTGAGATGA 22

RESULT 7
US-09-802-445-1
; Sequence 1, Application US/09802445
; Patent No. US20020107212A1
; GENERAL INFORMATION:
; APPLICANT: Van Nest, Gary
; APPLICANT: Eiden, Joseph J. Jr.
; TITLE OF INVENTION: METHODS OF REDUCING PAPILLOMAVIRUS INFECTION USING IMMUNOMODULATO
; TITLE OF INVENTION: POLYNUCLEOTIDE SEQUENCES
; FILE REFERENCE: 377882001300
; CURRENT APPLICATION NUMBER: US/09/802,445
; CURRENT FILING DATE: 2001-09-24
; PRIOR APPLICATION NUMBER: 60/188,265
; PRIOR FILING DATE: 2000-03-10
; NUMBER OF SEQ ID NOS: 8
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 1
; LENGTH: 22
; TYPE: DNA
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Polynucleotide containing CG
US-09-802-445-1

Query Match          100.0%; Score 22; DB 9; Length 22;
Best Local Similarity 100.0%; Pred. No. 0.36;
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 TGACTGTGAACGTTGAGATGA 22
Db 1 TGACTGTGAACGTTGAGATGA 22

RESULT 8
US-09-820-484-1
; Sequence 1, Application US/09820484
; Patent No. US20020142977A1
; GENERAL INFORMATION:
; APPLICANT: Raz, Eyal
; APPLICANT: Cho, Hearn Jay
; APPLICANT: Richman, Douglas A.
; APPLICANT: Horner, Anthony A.
; TITLE OF INVENTION: Method for Increasing a Cytotoxic T
; TITLE OF INVENTION: Lymphocyte Response in vivo.
; FILE REFERENCE: 06510-188US1
; CURRENT APPLICATION NUMBER: US/09/820,484
; CURRENT FILING DATE: 2001-03-28
; PRIOR APPLICATION NUMBER: US 60/192,537
; PRIOR FILING DATE: 2000-03-28
```

```

PRIOR APPLICATION NUMBER: US 60/203,567
PRIOR FILING DATE: 2000-05-11
PRIOR APPLICATION NUMBER: US 60/215,895
PRIOR FILING DATE: 2000-07-05
NUMBER OF SEQ ID NOS: 8
SOFTWARE: FastSeq for Windows Version 4.0
SEQ ID NO: 1
LENGTH: 22
TYPE: DNA
ORGANISM: Artificial Sequence
FEATURE:
OTHER INFORMATION: Disulfide-linked phosphorothioate ISS-ODN
NAME/KEY: modified base
LOCATION: (1)...(1)
OTHER INFORMATION: disulfide thymine
US-09-820-484-1

```

Query Match	100.0%;	Score 22;	DB 9;	Length 22;
Best Local Similarity	100.0%;	Pred. No. 0.36;		
Matches 22;	Conservative 0;	Mismatches 0;	Indels 0;	Gaps 0;

QY	1	TGACTGTGAACGTTCGAGATGA	22
Dd	1	TGACTGTGAACGTTGAGATGA	22

```

RESULT 9
US-09-820-484-3
; Sequence 3, Application US/09820484
; Patent No. US2002014297A1
; GENERAL INFORMATION:
; APPLICANT: Raz, Eyal
; APPLICANT: Cho, Hsien Jay
; APPLICANT: Richman, Douglas
; APPLICANT: Horner, Anthony A.
; TITLE OF INVENTION: Method for Increasing a Cytotoxic T
; TITLE OF INVENTION: Lymphocyte Response in vivo.
; FILE REFERENCE: 06510-188US1
; CURRENT APPLICATION NUMBER: US/09/820,484
; CURRENT FILING DATE: 2001-03-28
; PRIOR APPLICATION NUMBER: US 60/192,537
; PRIOR FILING DATE: 2000-03-28
; PRIOR APPLICATION NUMBER: US 60/203,567
; PRIOR FILING DATE: 2000-05-11
; PRIOR APPLICATION NUMBER: US 60/215,895
; PRIOR FILING DATE: 2000-07-05
; NUMBER OF SEQ ID NOS: 8
; SOFTWARE: FaetsEq for Windows Version 4.0
; SEQ ID NO 3
; LENGTH: 22
; TYPE: DNA
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: phosphorothiccate ISS-ODN
US-09-820-484-3

```

Query Match	100.0%;	Score 22;	DB 9;	Length 22;
Best Local Similarity	100.0%;	Pred. No. 0.36;		
Matches	22;	Conservative	0;	Mismatches 0;
			Indels	0;
			Gaps	0;

QY 1 TGA CTGTGAACGTTGAGATGA 22  
|||||  
Db 1 TGA CTGTGAACGTTGAGATGA 22

```

RESULT 10
US-09-828-505-1
; Sequence 1, Application US/09828505
; Patent No. US20020142978A1
; GENERAL INFORMATION:
; APPLICANT: Raz, Eyal
; APPLICANT: Takabayashi, Kenji
; APPLICANT: Nguyen, Minh-Duc

```

```

1  TITLE OF INVENTION: Synergistic Improvements to
2  TITLE OF INVENTION: Polynucleotide Vaccines
3  FILE REFERENCE: 6510-203
4  CURRENT APPLICATION NUMBER: US/09/828,505
5  CURRENT FILING DATE: 2001-04-06
6  PRIOR APPLICATION NUMBER: 60/195,890
7  PRIOR FILING DATE: 2000-04-07
8  NUMBER OF SEQ ID NOS: 4
9  SOFTWARE: FastSeq for Windows Version 4.0
10  SEQ ID NO: 1
11  LENGTH: 22
12  TYPE: DNA
13  ORGANISM: Artificial Sequence
14  FEATURE:
15  OTHER INFORMATION: Immunomodulatory nucleic acid
16  US-09-828-505-1

```

Query Match	100.0%;	Score 22;	DB 9;	Length 22;
Best Local Similarity	100.0%;	Pred. No. 0.36;		
Matches 22;	Conservative 0;	Mismatches 0;	Indels 0;	Gaps 0;

```

QY      1 TGA CTGTG AACGTT CGAGATGA 22
          |||||
DB      1 TGA CTGTG AACGTT CGAGATGA 22

```

```

RESULT 11
US-09-967-881-2
Sequence 2, Application US/09967881
Publication No. US20020192184A1
GENERAL INFORMATION:
APPLICANT: Assistance Publique - Hopitaux de Paris
APPLICANT: Institut National de la Sante et de la Recherche M
APPLICANT: Carpentier, Arnoine
TITLE OF INVENTION: Use of Stabilised Oligonucleotides for Preparing A Medicament with
FILE REFERENCE: 267/246 US
CURRENT APPLICATION NUMBER: US/09/967,881
CURRENT FILING DATE: 2001-09-28
NUMBER OF SEQ ID NOS: 48
SOFTWARE: PatentIn version 3.1
SEQ ID NO 2
LENGTH: 22
TYPE: DNA
ORGANISM: Artificial sequence
FEATURE:
OTHER INFORMATION: Oligodeoxynucleotide
US-09-967-881-2

```

Query Match	100.0%;	Score 22;	DB 9;	Length 22;
Best Local Similarity	100.0%;	Pred. No. 0.36;		
Matches 22;	Conservative 0;	Mismatches 0;	Indels 0;	Gaps 0

OY	1	TGACTGTGAACGTTGCAGATGA	22
Db	1	TGACTGTGAACGTTGCAGATGA	22

```

RESULT 12 422A-1
; US-09-927-422A-1
; Sequence 1, Application US/09927422A
; Publication No. US20030022852A1
; GENERAL INFORMATION:
; APPLICANT: Van Nest, Gary
; APPLICANT: Tuck, Stephen
; APPLICANT: Pearson, Karen L.
; APPLICANT: Dina, Dino
; TITLE OF INVENTION: BIODEGRADABLE IMMUNOMODULATORY
; TITLE OF INVENTION: FORMULATIONS AND METHODS FOR USE THEREOF
; FILE REFERENCE: 377882001420
; CURRENT APPLICATION NUMBER: US/09/927,422A
; CURRENT FILING DATE: 2001-08-10
; PRIOR APPLICATION NUMBER: U.S. 09/802,359

```

;; PRIOR FILING DATE: 2001-03-09  
;; PRIOR APPLICATION NUMBER: U.S. 60/188,30  
;; PRIOR FILING DATE: 2000-03-10  
;; NUMBER OF SEQ ID NOS: 23  
;; SOFTWARE: FastSeq for Windows Version 4.0  
;; SEQ ID NO 1  
;; LENGTH: 22  
;; TYPE: DNA  
;; ORGANISM: Artificial Sequence  
;; FEATURE:  
;; OTHER INFORMATION: Polynucleotide containing CG  
US-09-927-422A-1

Query Match 100.0%; Score 22; DB 10; Length 22;  
Best Local Similarity 100.0%; Pred. No. 0.36;  
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 TGAAGTGAACGTTGAGATGA 22  
Db 1 TGAAGTGAACGTTGAGATGA 22

RESULT 13  
US-09-738-046A-3  
;; Sequence 3, Application US/09738046A  
;; Publication No. US20030054007A1  
;; GENERAL INFORMATION:  
;; APPLICANT: FELGNER, PHILIP L.  
;; APPLICANT: ZELPHAT, OLIVER  
;; TITLE OF INVENTION: INTRACELLULAR PROTEIN DELIVERY  
;; TITLE OF INVENTION: COMPOSITIONS AND METHODS OF USE  
;; FILE REFERENCE: GTSYS.004A  
;; CURRENT APPLICATION NUMBER: US/09/738,046A  
;; CURRENT FILING DATE: 2000-12-15  
;; NUMBER OF SEQ ID NOS: 3  
;; SOFTWARE: FastSeq for Windows Version 4.0  
;; SEQ ID NO 3  
;; LENGTH: 22  
;; TYPE: DNA  
;; ORGANISM: Artificial Sequence  
;; FEATURE:  
;; OTHER INFORMATION: artificial sequence containing CpG sequence  
US-09-738-046A-3

Query Match 100.0%; Score 22; DB 10; Length 22;  
Best Local Similarity 100.0%; Pred. No. 0.36;  
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 TGAAGTGAACGTTGAGATGA 22  
Db 1 TGAAGTGAACGTTGAGATGA 22

RESULT 14  
US-09-927-884-1  
;; Sequence 1, Application US/0927884  
;; Publication No. US20030059773A1  
;; GENERAL INFORMATION:  
;; APPLICANT: Van Nest, Gary  
;; APPLICANT: Tuck, Stephen L.  
;; APPLICANT: Featon, Karen L.  
;; APPLICANT: Dina, Dino  
;; TITLE OF INVENTION: IMMUNOMODULATORY FORMULATIONS AND  
;; TITLE OF INVENTION: METHODS FOR USE THEREOF  
;; FILE REFERENCE: 377882001720  
;; CURRENT APPLICATION NUMBER: US/09/927,884  
;; CURRENT FILING DATE: 2001-08-10  
;; PRIOR APPLICATION NUMBER: U.S. 09/802,376  
;; PRIOR FILING DATE: 2001-03-09  
;; PRIOR APPLICATION NUMBER: U.S. 60/188,557  
;; PRIOR FILING DATE: 2000-03-10  
;; NUMBER OF SEQ ID NOS: 14  
;; SOFTWARE: FastSeq for Windows Version 4.0

;; SEQ ID NO 1  
;; LENGTH: 22  
;; TYPE: DNA  
;; ORGANISM: Artificial Sequence  
;; FEATURE:  
;; OTHER INFORMATION: Polynucleotide containing CG  
US-09-927-884-1

Query Match 100.0%; Score 22; DB 10; Length 22;  
Best Local Similarity 100.0%; Pred. No. 0.36;  
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 TGAAGTGAACGTTGAGATGA 22  
Db 1 TGAAGTGAACGTTGAGATGA 22

RESULT 15  
US-09-802-359-1  
;; Sequence 1, Application US/09802359  
;; Publication No. US20030129251A1  
;; GENERAL INFORMATION:  
;; APPLICANT: Tuck, Stephen  
;; APPLICANT: Van Nest, Gary  
;; TITLE OF INVENTION: IMMUNOMODULATORY FORMULATIONS AND METHODS FOR USE THEREOF  
;; FILE REFERENCE: 37788201400  
;; CURRENT APPLICATION NUMBER: US/09/802,359  
;; CURRENT FILING DATE: 2001-03-09  
;; PRIOR APPLICATION NUMBER: 60/188,303  
;; PRIOR FILING DATE: 2000-03-10  
;; NUMBER OF SEQ ID NOS: 11  
;; SOFTWARE: FastSeq for Windows Version 4.0  
;; SEQ ID NO 11  
;; LENGTH: 22  
;; TYPE: DNA  
;; ORGANISM: Artificial Sequence  
;; FEATURE:  
;; OTHER INFORMATION: Polynucleotide containing CG  
US-09-802-359-1

Query Match 100.0%; Score 22; DB 10; Length 22;  
Best Local Similarity 100.0%; Pred. No. 0.36;  
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 TGAAGTGAACGTTGAGATGA 22  
Db 1 TGAAGTGAACGTTGAGATGA 22

RESULT 16  
US-09-967-464-19  
;; Sequence 19, Application US/09967464  
;; Publication No. US20030138453A1  
;; GENERAL INFORMATION:  
;; APPLICANT: O'Hagan, Derek  
;; APPLICANT: Otten, Gillis  
;; APPLICANT: Donnelly, John J.  
;; APPLICANT: Polo, John W.  
;; APPLICANT: Barnett, Susan  
;; APPLICANT: Singh, Mamohan  
;; APPLICANT: Ulmer, Jeffrey  
;; APPLICANT: Dubensky, Jr., Thomas W.  
;; TITLE OF INVENTION: MICROPARTICLES FOR DELIVERY OF HETEROLOGOUS NUCLEIC ACIDS  
;; FILE REFERENCE: PPI6269.004  
;; CURRENT APPLICATION NUMBER: US/09/967,464  
;; CURRENT FILING DATE: 2002-04-11  
;; PRIOR APPLICATION NUMBER: 60/236,105  
;; PRIOR FILING DATE: 2000-09-28  
;; PRIOR APPLICATION NUMBER: 60/315,905  
;; PRIOR FILING DATE: 2001-08-30  
;; NUMBER OF SEQ ID NOS: 68  
;; SOFTWARE: PatentIn version 3.1  
;; SEQ ID NO 19

```

; LENGTH: 22
; TYPE: DNA
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Artificial sequence is synthesized
US-09-967-464-19

Query Match          100.0%; Score 22; DB 10; Length 22;
Best Local Similarity 100.0%; Pred. No. 0.36;
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 TGACTGTGAACGTTGAGATGA 22
    |||
Db 1 TGACTGTGAACGTTGAGATGA 22

RESULT 17
US-09-848-986-1
; Sequence 1, Application US/09848986
; Publication No. US20030176373A1
; GENERAL INFORMATION:
; APPLICANT: Raz, Eyal
; APPLICANT: Lois, Augusto F.
; APPLICANT: Takabayashi, Kenji
; TITLE OF INVENTION: Agents that Modulate DNA-PK Activity and
; FILE REFERENCE: 06510168US1
; CURRENT APPLICATION NUMBER: US/09/848,986
; PRIOR FILING DATE: 2001-05-03
; PRIOR APPLICATION NUMBER: us 60/262321
; PRIOR FILING DATE: 2001-01-17
; PRIOR APPLICATION NUMBER: us 60/202,274
; PRIOR FILING DATE: 2000-05-05
; NUMBER OF SEQ ID NOS: 21
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 1
; LENGTH: 22
; TYPE: DNA
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: ISS-ODN
US-09-848-986-1

Query Match          100.0%; Score 22; DB 10; Length 22;
Best Local Similarity 100.0%; Pred. No. 0.36;
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 TGACTGTGAACGTTGAGATGA 22
    |||
Db 1 TGACTGTGAACGTTGAGATGA 22

RESULT 18
US-10-056-420-4
; Sequence 4, Application US/10056420
; Publication No. US20030044428A1
; GENERAL INFORMATION:
; APPLICANT: Moses, Ronald B.
; APPLICANT: Carlo, Dennis J.
; TITLE OF INVENTION: Method For Treating an HIV-Infected
; TITLE OF INVENTION: Individual By Combining Immunization With Structured
; FILE REFERENCE: P-IM 5158
; CURRENT APPLICATION NUMBER: US/10/056,420
; PRIOR FILING DATE: 2002-01-24
; PRIOR APPLICATION NUMBER: US 60/264,476
; PRIOR FILING DATE: 2001-01-26
; NUMBER OF SEQ ID NOS: 5
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 4
; LENGTH: 22
; TYPE: DNA
; ORGANISM: Artificial Sequence
```

```

; FEATURE:
; OTHER INFORMATION: exemplary ISS sequence
US-10-056-420-4

Query Match          100.0%; Score 22; DB 14; Length 22;
Best Local Similarity 100.0%; Pred. No. 0.36;
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 TGACTGTGAACGTTGAGATGA 22
    |||
Db 1 TGACTGTGAACGTTGAGATGA 22

RESULT 19
US-10-033-243-2
; Sequence 2, Application US/10033243
; Publication No. US20030049266A1
; GENERAL INFORMATION:
; APPLICANT: FEARON, Karen L.
; APPLICANT: DINA, Dino
; TITLE OF INVENTION: IMMUNOMODULATORY POLYNUCLEOTIDES AND
; FILE REFERENCE: 377882001800
; CURRENT APPLICATION NUMBER: US/10/033,243
; PRIOR FILING DATE: 2002-04-03
; PRIOR APPLICATION NUMBER: 60/258,675
; PRIOR FILING DATE: 2000-12-27
; NUMBER OF SEQ ID NOS: 133
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 2
; LENGTH: 22
; TYPE: DNA
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Polynucleotide containing CG
US-10-033-243-2

Query Match          100.0%; Score 22; DB 14; Length 22;
Best Local Similarity 95.5%; Pred. No. 0.36;
Matches 21; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

QY 1 TGACTGTGAACGTTGAGATGA 22
    |||
Db 1 TGACTGTGAACGTTGAGATGA 22

RESULT 20
US-10-033-243-40
; Sequence 40, Application US/10033243
; Publication No. US20030049266A1
; GENERAL INFORMATION:
; APPLICANT: FEARON, Karen L.
; APPLICANT: DINA, Dino
; TITLE OF INVENTION: IMMUNOMODULATORY POLYNUCLEOTIDES AND
; TITLE OF INVENTION: METHODS OF USING THE SAME
; FILE REFERENCE: 377882001800
; CURRENT APPLICATION NUMBER: US/10/033,243
; PRIOR FILING DATE: 2002-04-03
; PRIOR APPLICATION NUMBER: 60/258,675
; PRIOR FILING DATE: 2000-12-27
; NUMBER OF SEQ ID NOS: 133
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 40
; LENGTH: 22
; TYPE: DNA
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Polynucleotide containing CG
US-10-033-243-40

Query Match          100.0%; Score 22; DB 14; Length 22;
Best Local Similarity 95.5%; Pred. No. 0.36;
Matches 21; Conservative 1; Mismatches 0; Indels 0; Gaps 0;
```



```
QY      1 TGACTGTGAACGTTTCGAGATGA 22
      |||||||:|||||
DB      1 TGACTGTGAACGTTTCGAGATGA 22

RESULT 21
US-10-033-243-59
; Sequence 59, Application US/10033243
; Publication No. US20030049266A1
; GENERAL INFORMATION:
; APPLICANT: FEARON, Karen L.
; APPLICANT: DINA, Dino
; TITLE OF INVENTION: IMMUNOMODULATORY POLYNUCLEOTIDES AND
; TITLE OF INVENTION: METHODS OF USING THE SAME
; FILE REFERENCE: 377882001800
; CURRENT APPLICATION NUMBER: US/10/033,243
; PRIOR FILING DATE: 2002-04-03
; PRIOR APPLICATION NUMBER: 60/258,675
; PRIOR FILING DATE: 2000-12-27
; NUMBER OF SEQ ID NOS: 133
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 59
; LENGTH: 22
; TYPE: DNA
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Polynucleotide containing CG

US-10-033-243-59

Query Match      100.0%; Score 22; DB 14; Length 22;
Best Local Similarity 100.0%; Pred. No. 0.36;
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY      1 TGACTGTGAACGTTTCGAGATGA 22
      |||||||:|||||
DB      1 TGACTGTGAACGTTTCGAGATGA 22

RESULT 22
US-10-214-288-1
; Sequence 1, Application US/10214288
; Publication No. US20030064064A1
; GENERAL INFORMATION:
; APPLICANT: DINO, Dina
; TITLE OF INVENTION: Methode of Treating IGF-Associated
; TITLE OF INVENTION: Disorders and Compositions for Use Therein
; FILE REFERENCE: 377882000601
; CURRENT APPLICATION NUMBER: US/10/214,288
; CURRENT FILING DATE: 2002-08-06
; PRIOR APPLICATION NUMBER: US 09/397,198
; PRIOR FILING DATE: 1999-09-16
; PRIOR APPLICATION NUMBER: US 60/100,838
; PRIOR FILING DATE: 1998-09-18
; PRIOR APPLICATION NUMBER: US 60/136,600
; PRIOR FILING DATE: 1999-05-28
; NUMBER OF SEQ ID NOS: 1
; SOFTWARE: FastSeq for Windows Version 3.0
; SEQ ID NO 1
; LENGTH: 22
; TYPE: DNA
; ORGANISM: Unknown
; FEATURE:
; OTHER INFORMATION: ISS sequence

US-10-214-288-1

Query Match      100.0%; Score 22; DB 14; Length 22;
Best Local Similarity 100.0%; Pred. No. 0.36;
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY      1 TGACTGTGAACGTTTCGAGATGA 22
      |||||||:|||||
DB      1 TGACTGTGAACGTTTCGAGATGA 22
```

```
RESULT 23
US-10-099-512-1
; Sequence 1, Application US/10099512
; Publication No. US20030078223A1
; GENERAL INFORMATION:
; APPLICANT: Raz, Eyal
; APPLICANT: Broide, David
; TITLE OF INVENTION: Compositions and Methods for Modulating
; TITLE OF INVENTION: an Immune Response
; FILE REFERENCE: UCAL-170CIP15
; CURRENT APPLICATION NUMBER: US/10/099,512
; CURRENT FILING DATE: 2002-03-15
; PRIOR APPLICATION NUMBER: 09/235,742
; PRIOR FILING DATE: 1999-01-21
; PRIOR APPLICATION NUMBER: 08/927,120
; PRIOR FILING DATE: 1997-09-05
; PRIOR APPLICATION NUMBER: 09/265,191
; PRIOR FILING DATE: 1999-03-10
; PRIOR APPLICATION NUMBER: 08/593,554
; PRIOR FILING DATE: 1996-01-30
; PRIOR APPLICATION NUMBER: 60/276,865
; PRIOR FILING DATE: 2001-03-16
; NUMBER OF SEQ ID NOS: 4
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 1
; LENGTH: 22
; TYPE: DNA
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: synthetic DNA

US-10-099-512-1

Query Match      100.0%; Score 22; DB 14; Length 22;
Best Local Similarity 100.0%; Pred. No. 0.36;
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY      1 TGACTGTGAACGTTTCGAGATGA 22
      |||||||:|||||
DB      1 TGACTGTGAACGTTTCGAGATGA 22

RESULT 24
US-10-229-208-19
; Sequence 19, Application US/10229208
; Publication No. US2003009263A1
; GENERAL INFORMATION:
; APPLICANT: Raz, Eyal
; TITLE OF INVENTION: Immunization-Free Methods for Treating
; TITLE OF INVENTION: Antigen-Stimulated Inflammation in a Mammalian Host and
; TITLE OF INVENTION: Shifting the Host's Antigen Immune Responsiveness to a TH1
; FILE REFERENCE: UCAL-170CON9
; CURRENT APPLICATION NUMBER: US/10/229,208
; CURRENT FILING DATE: 2002-12-05
; PRIOR APPLICATION NUMBER: 09/235,742
; PRIOR FILING DATE: 1999-01-21
; PRIOR APPLICATION NUMBER: 08/927,120
; PRIOR FILING DATE: 1997-09-15
; NUMBER OF SEQ ID NOS: 20
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 19
; LENGTH: 22
; TYPE: DNA
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Recombinant or Synthetic Sequence with a
; OTHER INFORMATION: phosphothioate backbone

US-10-229-208-19

Query Match      100.0%; Score 22; DB 14; Length 22;
Best Local Similarity 100.0%; Pred. No. 0.36;
```

```
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 TGAAGTGAACGTTGAGATGA 22
   |||||
Db 1 TGAAGTGAACGTTGAGATGA 22

RESULT 25
US-10-253-117-32
; Sequence 32, Application US/10253117
; Publication No. US20030119773A1
; GENERAL INFORMATION:
; APPLICANT: RAZ, Eyal R.
; APPLICANT: KOBAYASHI, Hiroko
; TITLE OF INVENTION: METHOD FOR ENHANCING AN IMMUNE RESPONSE
; FILE REFERENCE: 30448.64US01
; CURRENT APPLICATION NUMBER: US/10/253,117
; PRIOR FILING DATE: 2002-09-23
; PRIOR APPLICATION NUMBER: US/09/347,343
; PRIOR FILING DATE: 1999-07-02
; NUMBER OF SEQ ID NOS: 40
; SOFTWARE: FastSeq for Windows Version 3.0
; SEQ ID NO 32
; LENGTH: 22
; TYPE: DNA
; ORGANISM: synthetic oligonucleotide
US-10-253-117-32

Query Match 100.0%; Score 22; DB 15; Length 22;
Best Local Similarity 100.0%; Pred. No. 0.36;
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 TGAAGTGAACGTTGAGATGA 22
   |||||
Db 1 TGAAGTGAACGTTGAGATGA 22

RESULT 26
US-10-233-121A-1
; Sequence 1, Application US/10233121A
; Publication No. US20030125284A1
; GENERAL INFORMATION:
; APPLICANT: LOIS, AUGUSTO
; APPLICANT: RAZ, Eyal
; APPLICANT: TAKABAYASHI, KENJI
; TITLE OF INVENTION: AGENTS THAT MODULATE DNA-PK ACTIVITY AND
; FILE REFERENCE: UCAL-168DIV
; CURRENT APPLICATION NUMBER: US/10/233,121A
; PRIOR FILING DATE: 2003-03-11
; PRIOR APPLICATION NUMBER: US 09/848,986
; PRIOR FILING DATE: 2001-05-04
; PRIOR APPLICATION NUMBER: US 60/202,274
; PRIOR FILING DATE: 2000-05-05
; PRIOR APPLICATION NUMBER: US 60/262,321
; PRIOR FILING DATE: 2001-01-17
; NUMBER OF SEQ ID NOS: 21
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 1
; LENGTH: 22
; TYPE: DNA
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: phosphodiester or phosphorothioate oligonucleotide
US-10-233-121A-1

Query Match 100.0%; Score 22; DB 15; Length 22;
Best Local Similarity 100.0%; Pred. No. 0.36;
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 TGAAGTGAACGTTGAGATGA 22
   |||||
Db 1 TGAAGTGAACGTTGAGATGA 22
```

```
RESULT 27
US-10-219-143-1
; Sequence 1, Application US/10219143
; Publication No. US20030130217A1
; GENERAL INFORMATION:
; APPLICANT: RAZ, Eyal
; APPLICANT: Rachmilewitz, Daniel
; TITLE OF INVENTION: Disease and Other Forms of Gastrointestinal Inflammation.
; FILE REFERENCE: 6510-202US1
; CURRENT APPLICATION NUMBER: US/10/219,143
; PRIOR FILING DATE: 2002-08-13
; PRIOR APPLICATION NUMBER: US/09/791,500
; PRIOR FILING DATE: 2001-02-22
; NUMBER OF SEQ ID NOS: 39
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 1
; LENGTH: 22
; TYPE: DNA
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: synthetic polynucleotide sequence
US-10-219-143-1

Query Match 100.0%; Score 22; DB 15; Length 22;
Best Local Similarity 100.0%; Pred. No. 0.36;
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 TGAAGTGAACGTTGAGATGA 22
   |||||
Db 1 TGAAGTGAACGTTGAGATGA 22

RESULT 28
US-10-214-799-2
; Sequence 2, Application US/10214799
; Publication No. US20030133988A1
; GENERAL INFORMATION:
; APPLICANT: Pearson, Karen L. and Dina, Dino
; TITLE OF INVENTION: IMMUNOMODULATORY COMPOSITIONS,
; FILE REFERENCE: 377882003100
; CURRENT APPLICATION NUMBER: US/10/214,799
; PRIOR FILING DATE: 2002-08-07
; PRIOR APPLICATION NUMBER: US 60/310,743
; PRIOR FILING DATE: 2001-08-07
; PRIOR APPLICATION NUMBER: US 60/335,263
; PRIOR FILING DATE: 2001-10-25
; NUMBER OF SEQ ID NOS: 2
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 2
; LENGTH: 22
; TYPE: DNA
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Synthetic construct
US-10-214-799-2

Query Match 100.0%; Score 22; DB 15; Length 22;
Best Local Similarity 100.0%; Pred. No. 0.36;
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 TGAAGTGAACGTTGAGATGA 22
   |||||
Db 1 TGAAGTGAACGTTGAGATGA 22

RESULT 29
US-10-340-275-1
; Sequence 1, Application US/10340275
; Publication No. US20030143213A1
```

```
/ GENERAL INFORMATION:
/ APPLICANT: Raz, Eyal
/ APPLICANT: Cho, Hearn Jay
/ APPLICANT: Richman, Douglas
/ APPLICANT: Horner, Anthony A.
/ TITLE OF INVENTION: Method for Increasing a Cytotoxic T
/ TITLE OF INVENTION: Lymphocyte Response in vivo.
/ FILE REFERENCE: UCAL-188DIY
/ CURRENT APPLICATION NUMBER: US/10/340,275
/ CURRENT FILING DATE: 2003-01-10
/ PRIOR APPLICATION NUMBER: 09/820,484
/ PRIOR FILING DATE: 2001-03-28
/ PRIOR APPLICATION NUMBER: US 60/192,537
/ PRIOR FILING DATE: 2000-03-28
/ PRIOR APPLICATION NUMBER: US 60/203,567
/ PRIOR FILING DATE: 2000-05-11
/ PRIOR APPLICATION NUMBER: US 60/215,895
/ PRIOR FILING DATE: 2000-07-05
/ NUMBER OF SEQ ID NOS: 8
/ SOFTWARE: FastSeq for Windows Version 4.0
/ SEQ ID NO 1
/ LENGTH: 22
/ TYPE: DNA
/ ORGANISM: Artificial Sequence
/ FEATURE:
/ OTHER INFORMATION: Disulfide-linked phosphorothioate ISS-ODN
/ NAME/KEY: modified base
/ LOCATION: (1)...(1)
/ OTHER INFORMATION: disulfide thymine
US-10-340-275-1

Query Match          100.0%; Score 22; DB 15; Length 22;
Best Local Similarity 100.0%; Pred. No. 0.36;
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy      1 TGACTGTGAACGTTGCAGATGA 22
Db      1 TGACTGTGAACGTTGCAGATGA 22

RESULT 30
US-10-340-275-3
/ Sequence 3, Application US/10340275
/ Publication No. US20030143213A1
/ GENERAL INFORMATION:
/ APPLICANT: Raz, Eyal
/ APPLICANT: Cho, Hearn Jay
/ APPLICANT: Richman, Douglas
/ APPLICANT: Horner, Anthony A.
/ TITLE OF INVENTION: Method for Increasing a Cytotoxic T
/ TITLE OF INVENTION: Lymphocyte Response in vivo.
/ FILE REFERENCE: UCAL-188DIY
/ CURRENT APPLICATION NUMBER: US/10/340,275
/ CURRENT FILING DATE: 2003-01-10
/ PRIOR APPLICATION NUMBER: 09/820,484
/ PRIOR FILING DATE: 2001-03-28
/ PRIOR APPLICATION NUMBER: US 60/192,537
/ PRIOR FILING DATE: 2000-03-28
/ PRIOR APPLICATION NUMBER: US 60/203,567
/ PRIOR FILING DATE: 2000-05-11
/ PRIOR APPLICATION NUMBER: US 60/215,895
/ PRIOR FILING DATE: 2000-07-05
/ NUMBER OF SEQ ID NOS: 8
/ SOFTWARE: FastSeq for Windows Version 4.0
/ SEQ ID NO 3
/ LENGTH: 22
/ TYPE: DNA
/ ORGANISM: Artificial Sequence
/ FEATURE:
/ OTHER INFORMATION: phosphorothioate ISS-ODN
US-10-340-275-3
```

```
Query Match          100.0%; Score 22; DB 15; Length 22;
Best Local Similarity 100.0%; Pred. No. 0.36;
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy      1 TGACTGTGAACGTTGCAGATGA 22
Db      1 TGACTGTGAACGTTGCAGATGA 22

RESULT 31
US-10-339-885-1
/ Sequence 1, Application US/10339885
/ Publication No. US20030147870A1
/ GENERAL INFORMATION:
/ APPLICANT: Raz, Eyal
/ APPLICANT: Cho, Hearn Jay
/ APPLICANT: Richman, Douglas
/ APPLICANT: Horner, Anthony A.
/ TITLE OF INVENTION: Method for Increasing a Cytotoxic T
/ TITLE OF INVENTION: Lymphocyte Response in vivo.
/ FILE REFERENCE: UCAL-188CON
/ CURRENT APPLICATION NUMBER: US/10/339,885
/ CURRENT FILING DATE: 2003-01-10
/ PRIOR APPLICATION NUMBER: 09/820,484
/ PRIOR FILING DATE: 2001-03-28
/ PRIOR APPLICATION NUMBER: US 60/192,537
/ PRIOR FILING DATE: 2000-03-28
/ PRIOR APPLICATION NUMBER: US 60/203,567
/ PRIOR FILING DATE: 2000-05-11
/ PRIOR APPLICATION NUMBER: US 60/215,895
/ PRIOR FILING DATE: 2000-07-05
/ NUMBER OF SEQ ID NOS: 8
/ SOFTWARE: FastSeq for Windows Version 4.0
/ SEQ ID NO 1
/ LENGTH: 22
/ TYPE: DNA
/ ORGANISM: Artificial Sequence
/ FEATURE:
/ OTHER INFORMATION: Disulfide-linked phosphorothioate ISS-ODN
/ NAME/KEY: modified base
/ LOCATION: (1)...(1)
/ OTHER INFORMATION: disulfide thymine
US-10-339-885-1

Query Match          100.0%; Score 22; DB 15; Length 22;
Best Local Similarity 100.0%; Pred. No. 0.36;
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy      1 TGACTGTGAACGTTGCAGATGA 22
Db      1 TGACTGTGAACGTTGCAGATGA 22

RESULT 32
US-10-339-885-3
/ Sequence 3, Application US/10339885
/ Publication No. US20030147870A1
/ GENERAL INFORMATION:
/ APPLICANT: Raz, Eyal
/ APPLICANT: Cho, Hearn Jay
/ APPLICANT: Richman, Douglas
/ APPLICANT: Horner, Anthony A.
/ TITLE OF INVENTION: Method for Increasing a Cytotoxic T
/ TITLE OF INVENTION: Lymphocyte Response in vivo.
/ FILE REFERENCE: UCAL-188CON
/ CURRENT APPLICATION NUMBER: US/10/339,885
/ CURRENT FILING DATE: 2003-01-10
/ PRIOR APPLICATION NUMBER: 09/820,484
/ PRIOR FILING DATE: 2001-03-28
/ PRIOR APPLICATION NUMBER: US 60/192,537
/ PRIOR FILING DATE: 2000-03-28
/ PRIOR APPLICATION NUMBER: US 60/203,567
/ PRIOR FILING DATE: 2000-05-11
/ PRIOR APPLICATION NUMBER: US 60/215,895
/ PRIOR FILING DATE: 2000-07-05
/ NUMBER OF SEQ ID NOS: 8
/ SOFTWARE: FastSeq for Windows Version 4.0
/ SEQ ID NO 3
/ LENGTH: 22
/ TYPE: DNA
/ ORGANISM: Artificial Sequence
/ FEATURE:
/ OTHER INFORMATION: phosphorothioate ISS-ODN
US-10-339-885-3
```

```
; PRIOR FILING DATE: 2000-05-11
; PRIOR APPLICATION NUMBER: US 60/215,895
; PRIOR FILING DATE: 2000-07-05
; NUMBER OF SEQ ID NOS: 8
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 3
; LENGTH: 22
; TYPE: DNA
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: phosphorothioate ISS-ODN
US-10-339-885-3
```

```
Query Match          100.0%; Score 22; DB 15; Length 22;
Best Local Similarity 100.0%; Pred. No. 0.36;
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
```

```
QY      1 TGACTGTGAACGTTGCGATGA 22
        |||||||:|||||
Db      1 TGACTGTGAACGTTGCGATGA 22
```

```
RESULT 33
US-10-176-883-2
; Sequence 2, Application US/10176883
; Publication No. US20030175731A1
; GENERAL INFORMATION:
; APPLICANT: Fearon, Karen
; APPLICANT: Dina, Dino
; APPLICANT: Tuck, Stephen
; TITLE OF INVENTION: CHIMERIC IMMUNOMODULATORY COMPOUNDS AND
; FILE REFERENCE: 377882002000
; CURRENT APPLICATION NUMBER: US/10/176,883
; PRIOR FILING DATE: 2002-06-21
; PRIOR APPLICATION NUMBER: 60/239,883
; PRIOR FILING DATE: 2001-06-21
; PRIOR APPLICATION NUMBER: 60/375,253
; NUMBER OF SEQ ID NOS: 141
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 2
; LENGTH: 22
; TYPE: DNA
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Synthetic construct
US-10-176-883-2
```

```
Query Match          100.0%; Score 22; DB 15; Length 22;
Best Local Similarity 100.0%; Pred. No. 0.36;
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
```

```
QY      1 TGACTGTGAACGTTGCGATGA 22
        |||||||:|||||
Db      1 TGACTGTGAACGTTGCGATGA 22
```

```
RESULT 34
US-10-176-883-24
; Sequence 24, Application US/10176883
; Publication No. US20030175731A1
; GENERAL INFORMATION:
; APPLICANT: Fearon, Karen
; APPLICANT: Dina, Dino
; APPLICANT: Tuck, Stephen
; TITLE OF INVENTION: CHIMERIC IMMUNOMODULATORY COMPOUNDS AND
; FILE REFERENCE: 377882002000
; CURRENT APPLICATION NUMBER: US/10/176,883
; PRIOR FILING DATE: 2002-06-21
; PRIOR APPLICATION NUMBER: 60/239,883
; PRIOR FILING DATE: 2001-06-21
```

```
; PRIOR APPLICATION NUMBER: 60/375,253
; PRIOR FILING DATE: 2002-04-23
; NUMBER OF SEQ ID NOS: 141
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 24
; LENGTH: 22
; TYPE: DNA
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Synthetic construct
US-10-176-883-24
```

```
Query Match          100.0%; Score 22; DB 15; Length 22;
Best Local Similarity 95.5%; Pred. No. 0.36;
Matches 21; Conservative 1; Mismatches 0; Indels 0; Gaps 0;
```

```
QY      1 TGACTGTGAACGTTGCGATGA 22
        |||||||:|||||
Db      1 TGACTGTGAACGTTGCGATGA 22
```

```
RESULT 35
US-10-176-883-79
; Sequence 79, Application US/10176883
; Publication No. US20030175731A1
; GENERAL INFORMATION:
; APPLICANT: Fearon, Karen
; APPLICANT: Dina, Dino
; APPLICANT: Tuck, Stephen
; TITLE OF INVENTION: CHIMERIC IMMUNOMODULATORY COMPOUNDS AND
; FILE REFERENCE: 377882002000
; CURRENT APPLICATION NUMBER: US/10/176,883
; PRIOR FILING DATE: 2002-06-21
; PRIOR APPLICATION NUMBER: 60/239,883
; PRIOR FILING DATE: 2001-06-21
; PRIOR APPLICATION NUMBER: 60/375,253
; NUMBER OF SEQ ID NOS: 141
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 79
; LENGTH: 22
; TYPE: DNA
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Synthetic construct
US-10-176-883-79
```

```
Query Match          100.0%; Score 22; DB 15; Length 22;
Best Local Similarity 95.5%; Pred. No. 0.36;
Matches 21; Conservative 1; Mismatches 0; Indels 0; Gaps 0;
```

```
QY      1 TGACTGTGAACGTTGCGATGA 22
        |||||||:|||||
Db      1 TGACTGTGAACGTTGCGATGA 22
```

```
RESULT 36
US-10-176-883-134
; Sequence 134, Application US/10176883
; Publication No. US20030175731A1
; GENERAL INFORMATION:
; APPLICANT: Fearon, Karen
; APPLICANT: Dina, Dino
; APPLICANT: Tuck, Stephen
; TITLE OF INVENTION: CHIMERIC IMMUNOMODULATORY COMPOUNDS AND
; FILE REFERENCE: 377882002000
; CURRENT APPLICATION NUMBER: US/10/176,883
; PRIOR FILING DATE: 2002-06-21
; PRIOR APPLICATION NUMBER: 60/239,883
; PRIOR FILING DATE: 2001-06-21
; PRIOR APPLICATION NUMBER: 60/375,253
```

;; PRIOR FILING DATE: 2002-04-23  
;; NUMBER OF SEQ ID NOS: 141  
;; SOFTWARE: FastSeq for Windows Version 4.0  
;; SEQ ID NO 134  
;; LENGTH: 22  
;; TYPE: DNA  
;; ORGANISM: Artificial Sequence  
;; FEATURE:  
;; OTHER INFORMATION: Synthetic construct  
US-10-176-883-134

Query Match 100.0%; Score 22; DB 15; Length 22;  
Best Local Similarity 100.0%; Pred. No. 0.36;  
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 TGACTGTGAACGTTGCAGATGA 22  
Db 1 TGACTGTGAACGTTGCAGATGA 22

## RESULT 37

US-10-412-151-1  
;; Sequence 1, Application US/10412151  
;; Publication No. US20030176389A1  
;; GENERAL INFORMATION:  
;; APPLICANT: Raz, Eyal  
;; APPLICANT: Rachmilewicz, Daniel  
;; TITLE OF INVENTION: Disease and Other Forms of Gastrointestinal Inflammation.  
;; FILE REFERENCE: UCAL-202CON  
;; CURRENT APPLICATION NUMBER: US/10/412,151  
;; PRIOR FILING DATE: 2003-04-11  
;; PRIOR APPLICATION NUMBER: 09/791,500  
;; PRIOR FILING DATE: 2001-02-22  
;; PRIOR APPLICATION NUMBER: 60/184,256  
;; PRIOR FILING DATE: 2000-02-23  
;; NUMBER OF SEQ ID NOS: 39  
;; SOFTWARE: FastSeq for Windows Version 4.0  
;; SEQ ID NO 1  
;; LENGTH: 22  
;; TYPE: DNA  
;; ORGANISM: Artificial Sequence  
;; FEATURE:  
;; OTHER INFORMATION: synthetic polynucleotide sequence  
;; OTHER INFORMATION: oligonucleotide primer  
;; OTHER INFORMATION: oligonucleotide primer  
US-10-412-151-1

Query Match 100.0%; Score 22; DB 15; Length 22;  
Best Local Similarity 100.0%; Pred. No. 0.36;  
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 TGACTGTGAACGTTGCAGATGA 22  
Db 1 TGACTGTGAACGTTGCAGATGA 22

## RESULT 38

US-10-177-826-2  
;; Sequence 2, Application US/10177826  
;; Publication No. US20030199466A1  
;; GENERAL INFORMATION:  
;; APPLICANT: Fearon, Karen  
;; APPLICANT: Dina, Dino  
;; APPLICANT: Tuck, Stephen  
;; TITLE OF INVENTION: CHIMERIC IMMUNOMODULATORY COMPOUNDS AND  
;; TITLE OF INVENTION: METHODS OF USING THE SAME-II  
;; FILE REFERENCE: 377882002001  
;; CURRENT APPLICATION NUMBER: US/10/177,826  
;; PRIOR FILING DATE: 2002-06-21  
;; PRIOR APPLICATION NUMBER: 60/299,883  
;; PRIOR FILING DATE: 2001-06-21

;; PRIOR APPLICATION NUMBER: 60/375,253  
;; PRIOR FILING DATE: 2002-04-23  
;; NUMBER OF SEQ ID NOS: 141  
;; SOFTWARE: FastSeq for Windows Version 4.0  
;; SEQ ID NO 2  
;; LENGTH: 22  
;; TYPE: DNA  
;; ORGANISM: Artificial Sequence  
;; FEATURE:  
;; OTHER INFORMATION: Synthetic construct  
US-10-177-826-2

Query Match 100.0%; Score 22; DB 15; Length 22;  
Best Local Similarity 100.0%; Pred. No. 0.36;  
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 TGACTGTGAACGTTGCAGATGA 22  
Db 1 TGACTGTGAACGTTGCAGATGA 22

## RESULT 39

US-10-177-826-24  
;; Sequence 24, Application US/10177826  
;; Publication No. US20030199466A1  
;; GENERAL INFORMATION:  
;; APPLICANT: Fearon, Karen  
;; APPLICANT: Dina, Dino  
;; APPLICANT: Tuck, Stephen  
;; TITLE OF INVENTION: CHIMERIC IMMUNOMODULATORY COMPOUNDS AND  
;; TITLE OF INVENTION: METHODS OF USING THE SAME-II  
;; FILE REFERENCE: 377882002001  
;; CURRENT APPLICATION NUMBER: US/10/177,826  
;; PRIOR FILING DATE: 2002-06-21  
;; PRIOR APPLICATION NUMBER: 60/299,883  
;; PRIOR FILING DATE: 2001-06-21  
;; PRIOR APPLICATION NUMBER: 60/375,253  
;; PRIOR FILING DATE: 2002-04-23  
;; NUMBER OF SEQ ID NOS: 141  
;; SOFTWARE: FastSeq for Windows Version 4.0  
;; SEQ ID NO 24  
;; LENGTH: 22  
;; TYPE: DNA  
;; ORGANISM: Artificial Sequence  
;; FEATURE:  
;; OTHER INFORMATION: Synthetic construct  
US-10-177-826-24

Query Match 100.0%; Score 22; DB 15; Length 22;  
Best Local Similarity 95.5%; Pred. No. 0.36;  
Matches 21; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

Qy 1 TGACTGTGAACGTTGCAGATGA 22  
Db 1 TGACTGTGAACGTTGCAGATGA 22

## RESULT 40

US-10-177-826-79  
;; Sequence 79, Application US/10177826  
;; Publication No. US20030199466A1  
;; GENERAL INFORMATION:  
;; APPLICANT: Fearon, Karen  
;; APPLICANT: Dina, Dino  
;; APPLICANT: Tuck, Stephen  
;; TITLE OF INVENTION: CHIMERIC IMMUNOMODULATORY COMPOUNDS AND  
;; TITLE OF INVENTION: METHODS OF USING THE SAME-II  
;; FILE REFERENCE: 377882002001  
;; CURRENT APPLICATION NUMBER: US/10/177,826  
;; PRIOR FILING DATE: 2002-06-21  
;; PRIOR APPLICATION NUMBER: 60/299,883  
;; PRIOR FILING DATE: 2001-06-21  
;; PRIOR APPLICATION NUMBER: 60/375,253

; PRIOR FILING DATE: 2002-04-23  
 ; NUMBER OF SEQ ID NOS: 141  
 ; SOFTWARE: FastSeq for Windows Version 4.0  
 ; SEQ ID NO 79  
 ; LENGTH: 22  
 ; TYPE: DNA  
 ; ORGANISM: Artificial Sequence  
 ; FEATURE:  
 ; OTHER INFORMATION: Synthetic construct  
 US-10-177-826-79

Query Match 100.0%; Score 22; DB 15; Length 22;  
 Best Local Similarity 95.5%; Pred. No. 0.36;  
 Matches 21; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

QY 1 TGACTGTGAACGTTGAGATGA 22  
 |||||||:  
 Db 1 TGACTGTGAACGTTGAGATGA 22

Search completed: October 30, 2004, 20:02:08  
 Job time : 226 secs

GenCore version 5.1.6  
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OM nucleic - nucleic search, using sw model

Run on: October 30, 2004, 18:28:02 ; Search time 1483 Seconds

(without alignments)  
540.576 Million cell updates/sec

Title: US-09-802-376-1

Perfect score: 22

Sequence: 1 cgactgcgaagctgcagatga 22

Scoring table: IDENTITY NUC  
Gapop 10.0, Gapext 1.0

Searched: 32822875 seqs, 18219865908 residues  
Total number of hits satisfying chosen parameters: 664238

Minimum DB seq length: 0  
Maximum DB seq length: 100

Post-processing: Minimum Match 0%  
Maximum Match 100%  
Listing first 100 summaries

Database :

EST:\*  
1: gb\_esc1:\*  
2: gb\_esc2:\*  
3: gb\_esc3:\*  
4: gb\_esc4:\*  
5: gb\_esc5:\*  
6: gb\_esc6:\*  
7: gb\_esc7:\*  
8: gb\_esc8:\*  
9: gb\_esc9:\*

Prod. No. is the number of results predicted by chance to have a  
score greater than or equal to the score of the result being printed,  
and is derived by analysis of the total score distribution.

# SUMMARIES

Result No.	Score	Query Match	Length	ID	Description
1	15.6	70.9	63	8	AZ431742 IM0216018
2	15.2	69.1	78	9	CG562292 OST184609
3	15.2	69.1	92	9	CG578258 OST15285
4	14.8	67.3	99	1	AI313875 SMOVAFCAP
5	14.8	67.3	100	9	BX356599 Arabidops
6	14.6	66.4	77	9	CL521749 SRR1H12 F
7	14.6	66.4	93	9	CG552453 OST161720
8	14.2	64.5	72	9	BX127224 Danio rer
9	14.2	63.6	67	1	AA748429 ny01D05.8
10	14.2	63.6	73	9	AG221379 LOCus cot
11	14.2	63.6	88	8	AZ583456 IM0378G03
12	14.2	63.6	96	4	BI445449 dae81a09.
13	13.6	61.8	58	1	AA840471 vw76e10.r
14	13.6	61.8	68	9	CL524160 SMO6F04 F
15	13.6	61.8	68	9	CL524162 SMO6G04 F
16	13.2	60.0	40	1	AA779179 z143C07.8
17	13.2	60.0	48	8	BH866537 SALK_1014
18	13.2	60.0	50	1	AU106360 AU106360
19	13.2	60.0	56	9	BX987369 Reverse s
20	13.2	60.0	81	9	AG218726 Drosophila
21	13.2	60.0	96	7	CNS588245 TTR000028
22	13.2	60.0	99	8	AL951982 Arabidops
23	13.2	60.0	100	8	AZ390824 IM0152P20
24	13.2	59.1	61	1	AA836207 cd22h05.s

25	13	59.1	62	8	BH127397 G-1c17.r
26	13	59.1	68	1	AA104737 mo50C09.r
27	13	59.1	70	6	CD936672 RAE_81
28	13	59.1	71	8	BZ357971 SALK_1316
29	13	59.1	73	9	CG540274 OST132061
30	13	59.1	75	8	AZ775986 2M0009316
31	13	59.1	79	2	BE647619 NF012E12E
32	13	59.1	83	4	BI529631 1024100D0
33	13	59.1	83	4	BI529632 1024100D0
34	13	59.1	86	2	BF506962 11349P-9C
35	13	59.1	89	4	BM008683 603618359
36	13	59.1	91	9	CG721039 1119065B0
37	13	59.1	96	5	BUB27427 K002P10P
38	13	59.1	96	9	CL213942 M017A02 G
39	12.8	58.2	51	5	BQ587598 E012343-B
40	12.8	58.2	79	9	AL941969 Arabidops
41	12.8	58.2	84	8	BZ385251 SALK_1367
42	12.8	58.2	88	8	AZ783178 2M0074H07
43	12.8	58.2	94	1	AV964561 AV964561
44	12.8	58.2	98	9	CL422811 AE0843 Sa
45	12.8	58.2	100	6	CB040559 4003522 B
46	12.6	57.3	29	8	AZ760190 IM0553P09
47	12.6	57.3	30	8	CC792872 SALK_0028
48	12.6	57.3	37	8	AZ921432 1006Q30A0
49	12.6	57.3	57	8	BX488011 Arabidops
50	12.6	57.3	69	8	BH807809 1008073F0
51	12.6	57.3	80	5	CA390926 cs116b11.
52	12.6	57.3	82	6	AL767483 Arabidops
53	12.6	57.3	83	6	CD743377 IRR15 D10
54	12.6	57.3	83	6	AZ590182 1M0395D09
55	12.6	57.3	90	5	BQ818580 1030071G1
56	12.6	57.3	93	8	BZ292587 SALK_1247
57	12.6	57.3	91	8	CG502528 OST47702
58	12.6	57.3	91	9	CA960765 PCS06880
59	12.6	57.3	92	6	CG600172 OST26895
60	12.6	57.3	96	1	AU794321 AU794321
61	12.6	57.3	98	1	CD344038 EctESTe91
62	12.6	57.3	98	6	CG500185 OST42937
63	12.6	57.3	99	9	AV9633027 AV9633027
64	12.4	56.4	51	1	AG199950 Pan trogl
65	12.4	56.4	51	9	CR494110 Medicago
66	12.4	56.4	56	9	BH908170 SALK_0461
67	12.4	56.4	59	8	AA761865 n264D03.8
68	12.4	56.4	61	9	CR004873 Forward s
69	12.4	56.4	63	2	BF633413 NF055G12D
70	12.4	56.4	63	2	AZ975641 2M0250116
71	12.4	56.4	65	8	BH911627 SALK_0698
72	12.4	56.4	67	8	BX658282 Arabidops
73	12.4	56.4	67	9	BQ589990 E012842-0
74	12.4	56.4	69	5	CG577569 CH240_456
75	12.4	56.4	72	9	BH756914 SALK_0548
76	12.4	56.4	73	8	CK581425 IST_W15_3
77	12.4	56.4	76	7	BM127674 iev86D01.Y
78	12.4	56.4	78	4	BI175653 OSTR051F3
79	12.4	56.4	79	1	AV961008 AV961008
80	12.4	56.4	80	5	BP068762 BP068762
81	12.4	56.4	81	9	CG620747 OST18195
82	12.4	56.4	82	1	AA406148 zu20C11.8
83	12.4	56.4	82	8	AZ767894 Pan trogl
84	12.4	56.4	82	8	AG198560 Pan trogl
85	12.4	56.4	85	1	AA689791 v070H08.r
86	12.4	56.4	85	1	CK110880 P043G11.P
87	12.4	56.4	85	7	CR308814 Medicago
88	12.4	56.4	85	9	CG548982 OST151485
89	12.4	56.4	86	9	AI953694 wq47C06.X
90	12.4	56.4	88	1	AJ283191 AA3A-P7F1
91	12.4	56.4	88	1	AZ586476 OST144930
92	12.4	56.4	88	8	AG546017 Pan trogl
93	12.4	56.4	90	9	AG195135 OST168826
94	12.4	56.4	91	9	CG554726 SDN_291 G
95	12.4	56.4	92	6	CD962338 tag64f04.
96	12.4	56.4	92	6	CNS62180
97	12.4	56.4	92	7	

98	12.4	56.4	95	8	BH907331	BH907331	SALK_0394	C 171	12	54.5	75	5	BU891605	BU891605	P053A02.P
99	12.4	56.4	96	1	AA336017	AA336017	YD42608..r	C 172	12	54.5	75	6	CA996552	CA996552	rg42d12.y
C 100	12.4	56.4	96	7	CK227892	CK227892	700306245	C 173	12	54.5	76	7	H57254	H57254	yr10f03..r1
C 101	12.4	56.4	97	8	CG631426	CG631426	OST347804	C 174	12	54.5	77	1	AA682141	AA682141	vu13c08..r
C 102	12.4	56.4	98	8	BH810730	BH810730	SALK_0511	C 175	12	54.5	78	9	FR0016571	FR0016571	F.rubridge
C 103	12.4	56.4	98	9	CG410654	CG410654	OST254314	C 176	12	54.5	80	2	BE329424	BE329424	hg37b06..x
C 104	12.4	56.4	99	9	CG496629	CG496629	OST36752	C 177	12	54.5	80	3	CG546823	CG546823	OST146845
C 105	12.4	55.5	26	8	AZ352012	AZ352012	1M0090M13	C 178	12	54.5	81	7	CO514377	CO514377	bl3d8G84G
C 106	12.2	55.5	28	8	AZ776616	AZ776616	2M0010K24	C 179	12	54.5	81	8	BH223168	BH223168	100611f50
C 107	12.2	55.5	32	8	AZ320254	AZ320254	1M0040P07	C 180	12	54.5	81	9	CR166391	CR166391	Forward.s
C 108	12.2	55.5	34	4	BJ055330	BJ055330	BA055330	C 181	12	54.5	83	8	BZ385297	BZ385297	SALK_1370
C 109	12.2	55.5	36	4	EX893140	EX893140	Arabidops	C 182	12	54.5	84	5	BO541820	BO541820	p89d11.Y
C 110	12.2	55.5	47	9	EX893160	EX893160	Arabidops	C 183	12	54.5	84	7	CN924401	CN924401	000414ARL
C 111	12.2	55.5	48	7	R59822	R59822	Yh11d05..r1	C 184	12	54.5	84	7	CN924401	CN924401	OST34090
C 112	12.2	55.5	51	7	CN870791	CN870791	001205AAO	C 185	12	54.5	85	8	CG949359	CG949359	OST34090
C 113	12.2	55.5	55	1	AV859961	AV859961	Arabidops	C 186	12	54.5	85	9	CG497374	CG497374	SALK_0386
C 114	12.2	55.5	59	1	AX530741	AX530741	Arabidops	C 187	12	54.5	85	9	CG483662	CG483662	OST17376
C 115	12.2	55.5	67	6	CD946435	CD946435	REN_47_Ge	C 188	12	54.5	86	8	BH907868	BH907868	SALK_0445
C 116	12.2	55.5	68	9	CG627325	CG627325	OST371112	C 189	12	54.5	88	1	AA672676	AA672676	VP01C04.r
C 117	12.2	55.5	70	7	CF861233	CF861233	p820051H	C 190	12	54.5	88	1	AA072782	AA072782	mm76C01.r
C 118	12.2	55.5	76	9	CG712791	CG712791	1119029B0	C 191	12	54.5	89	8	BH418221	BH418221	99-140-GR
C 119	12.2	55.5	77	6	CF317632	CF317632	HD--07-G1	C 192	12	54.5	89	9	AC582786	AC582786	Mus_muscu
C 120	12.2	55.5	78	8	BH848378	BH848378	SALK_0680	C 193	12	54.5	89	9	BX659592	BX659592	Arabidops
C 121	12.2	55.5	82	6	CD940906	CD940906	RAU_38_Ge	C 194	12	54.5	90	5	BX715563	BX715563	BY715563
C 122	12.2	55.5	84	6	CG526397	CG526397	OST102946	C 195	12	54.5	90	9	CG487159	CG487159	OST22579
C 123	12.2	55.5	85	9	AG208293	AG208293	Oryza_sat	C 196	12	54.5	91	8	CG662549	CG662549	OST246522
C 124	12.2	55.5	88	6	CA513711	CA513711	zm2-7_Por	C 197	12	54.5	92	8	AZ345533	AZ345533	1M0080003
C 125	12.2	55.5	88	6	CB225706	CB225706	IRT19H07	C 198	12	54.5	92	8	BZ762891	BZ762891	SALK_1096
C 126	12.2	55.5	89	6	CD863924	CD863924	AZ01_1081	C 199	12	54.5	93	9	CG631043	CG631043	OST345654
C 127	12.2	55.5	92	1	AA424991	AA424991	ZW03h11..r	C 200	12	54.5	93	9	CG802963	CG802963	1118036G1
C 128	12.2	55.5	92	1	AA509238	AA509238	MBAPFC8H1	C 201	12	54.5	94	1	AA722709	AA722709	Z982A02..r
C 129	12.2	55.5	92	6	CB968001	CB968001	egx28B05-	C 202	12	54.5	94	7	CN866016	CN866016	000907AAL
C 130	12.2	55.5	94	6	CD319897	CD319897	Gm_CK1088	C 203	12	54.5	94	9	CG620682	CG620682	OST318065
C 131	12.2	55.5	95	6	CA584738	CA584738	LBD01242..	C 204	12	54.5	94	9	CG802942	CG802942	11180336E1
C 132	12.2	55.5	96	8	AZ402172	AZ402172	SALK_1491	C 205	12	54.5	96	9	CG514478	CG514478	OST68292
C 133	12.2	55.5	98	9	CG886853	CG886853	SDF_96_Ge	C 206	12	54.5	98	1	AA738995	AA738995	AV968412..r
C 134	12.2	55.5	99	6	CD960852	CD960852	SDF_96_Ge	C 207	12	54.5	99	1	AV962643	AV962643	ASV26A06..
C 135	12.2	55.5	100	6	CB403118	CB403118	OSTR002A3	C 208	12	54.5	99	9	CL528662	CL528662	q435D02..x
C 136	12.2	55.5	29	9	BZ596907	BZ596907	SALK_0969	C 209	11.8	53.6	49	1	AI186519	AI186519	sc11B08..Y
C 137	12.2	54.5	48	8	BZ596907	BZ596907	SALK_0969	C 210	11.8	53.6	49	1	AI900473	AI900473	sc11B08..Y
C 138	12.2	54.5	49	1	AI257734	AI257734	ap62507..x	C 211	11.8	53.6	54	7	D35387	D35387	CELK001G9F
C 139	12.2	54.5	50	1	AU107883	AU107883	Arabidops	C 212	11.8	53.6	56	5	BU064078	BU064078	Pgr_3_P09
C 140	12.2	54.5	50	9	TA346C05Q	TA346C05Q	Arabidops	C 213	11.8	53.6	58	9	AG200360	AG200360	Pan_cro91
C 141	12.2	54.5	51	8	CC021609	CC021609	3591_1_25	C 214	11.8	53.6	59	7	CF858931	CF858931	ps2G004XC
C 142	12.2	54.5	53	9	CG802728	CG802728	1118033D1	C 215	11.8	53.6	59	9	BX963535	BX963535	Reverse.s
C 143	12.2	54.5	56	8	AZ492525	AZ492525	1M0326M09	C 216	11.8	53.6	60	9	TA90G02P	TA90G02P	Reverse.s
C 144	12.2	54.5	56	9	AJ594869	AJ594869	Arabidops	C 217	11.8	53.6	64	2	AM626424	AM626424	SMOVARFCAP
C 145	12.2	54.5	58	1	AA106075	AA106075	m187e04..r	C 218	11.8	53.6	65	6	CB365462	CB365462	ZF001-P00
C 146	12.2	54.5	59	9	CG802843	CG802843	1118035C0	C 219	11.8	53.6	71	8	AZ658672	AZ658672	BN15_021K
C 147	12.2	54.5	60	8	BZ378400	BZ378400	SALK_1080	C 220	11.8	53.6	73	6	CD813980	CD813980	BN15_021K
C 148	12.2	54.5	62	6	CD965249	CD965249	SEJ_127_G	C 221	11.8	53.6	73	9	CG543110	CG543110	OST138478
C 149	12.2	54.5	62	9	CG802735	CG802735	1118033E0	C 222	11.8	53.6	74	7	H45375	H45375	ym39G07..r1
C 150	12.2	54.5	64	4	BG514647	BG514647	dad63B05..	C 223	11.8	53.6	74	7	R82107	R82107	14B1_Chromo
C 151	12.2	54.5	64	9	BX226786	BX226786	Danio_ret	C 224	11.8	53.6	77	4	BU049901	BU049901	BU049901
C 152	12.2	54.5	65	9	CG803623	CG803623	1118044C1	C 225	11.8	53.6	80	9	CL639543	CL639543	Q011A08_G
C 153	12.2	54.5	66	5	BP068496	BP068496	Arabidops	C 226	11.8	53.6	81	9	BX288780	BX288780	Arabidops
C 154	12.2	54.5	66	9	AJ598935	AJ598935	Arabidops	C 227	11.8	53.6	82	7	CN928678	CN928678	000601AEP
C 155	12.2	54.5	66	9	TA111H12Q	TA111H12Q	Arabidops	C 228	11.8	53.6	85	1	AA869007	AA869007	ak52d407..s
C 156	12.2	54.5	67	8	BZ660914	BZ660914	SALK_0243	C 229	11.8	53.6	86	1	AA241426	AA241426	MB12S19F3
C 157	12.2	54.5	67	9	CG481963	CG481963	OST14692	C 230	11.8	53.6	86	1	BU837889	BU837889	T106C11.P
C 158	12.2	54.5	68	5	BO133015	BO133015	f236f108..Y	C 231	11.8	53.6	86	8	BH848629	BH848629	SALK_0686
C 159	12.2	54.5	68	8	BO133274	BO133274	f239e09..Y	C 232	11.8	53.6	86	9	BO181950	BO181950	Danio_ret
C 160	12.2	54.5	68	9	CNS03NGG	AI25457	Tetradon	C 233	11.8	53.6	87	6	CO1954	CO1954	HDMS000396
C 161	12.2	54.5	69	8	BZ380057	BZ380057	SALK_1145	C 234	11.8	53.6	88	7	CO756147	CO756147	MdfrC3045
C 162	12.2	54.5	70	5	BQ092063	BQ092063	f236f108..x	C 235	11.8	53.6	91	1	AL651593	AL651593	AL651593
C 163	12.2	54.5	70	5	BQ092271	BQ092271	f239e09..x	C 236	11.8	53.6	91	8	BH862085	BH862085	SALK_0887
C 164	12.2	54.5	71	7	CNS66702	CNS66702	OST161696	C 237	11.8	53.6	93	9	CG646628	CG646628	OST393237
C 165	12.2	54.5	71	7	CG852451	CG852451	Arabidops	C 238	11.8	53.6	95	9	AL755674	AL755674	Arabidops
C 166	12.2	54.5	71	9	D86873	D86873	Human_exon	C 239	11.6	52.7	26	8	AQ254614	AQ254614	EP(3)0707
C 167	12.2	54.5	72	1	AA165723	AA165723	ms60B010..r	C 240	11.6	52.7	32	8	AZ936721	AZ936721	2M0193K03
C 168	12.2	54.5	72	9	CG712971	CG712971	1119029H0	C 241	11.6	52.7	39	7	H46101	H46101	yo17d02..r1
C 169	12.2	54.5	73	1	AA531660	AA531660	TGBSTz229	C 242	11.6	52.7	42	9	TA119G10P	TA119G10P	T_brucei
C 170	12.2	54.5	74	9	CG539084	CG539084	OST129692	C 243	11.6	52.7	45	9	BX651841	BX651841	Arabidops



C 244	11.6	52.7	46	6	CF304811	ABP1--06-	317	11.6	52.7	88	9	CG536371	CG563171	OST124248	
C 245	11.6	52.7	49	7	CK377964	1Ah89f06.	318	11.6	52.7	89	1	AI944909	AI944909	bse06n05.Y	
C 246	11.6	52.7	52	1	AA865120	oC51E01.s	319	11.6	52.7	89	1	AA200552	AA200552	mu34603.r	
C 247	11.6	52.7	52	1	AI582154	tg63a03.x	320	11.6	52.7	89	4	Bj031801	Bj031801		
C 248	11.6	52.7	52.7	52	1	AA191702	zP81H05.r	321	11.6	52.7	89	7	CF806961	CF806961	PEH8018XA
C 249	11.6	52.7	56	9	AL767684	ArabiIdops	322	11.6	52.7	89	8	BH850537	SALK_0714	BH850537	
C 250	11.6	52.7	56	9	CL517457	SAC7P04.P	323	11.6	52.7	92	9	CL256594	XP0036.Sa	CL256594	
C 251	11.6	52.7	57	4	BG368881	602454676	324	11.6	52.7	93	5	BQ457961	ph85809.Y	BQ457961	
C 252	11.6	52.7	58	9	BX225834	Danio rer	325	11.6	52.7	93	8	AZ348428	IM0085A04	AZ348428	
C 253	11.6	52.7	60	2	BE059621	sn34E07.Y	326	11.6	52.7	94	1	AA796568	VP14h12.r	AA796568	
C 254	11.6	52.7	62	8	BH906981	SAUK_0371	327	11.6	52.7	94	4	BG818354	602780258	BG818354	
C 255	11.6	52.7	62	8	BZ359026	BZ359026	328	11.6	52.7	95	1	AI327738	10c09a1.f	AI327738	
C 256	11.6	52.7	62	9	CL256488	AE0298.Sa	329	11.6	52.7	95	4	BI170569	rag12E10.	BI170569	
C 257	11.6	52.7	63	9	CG627573	OST337884	330	11.6	52.7	95	8	AZ648429	IM0517N19	AZ648429	
C 258	11.6	52.7	64	1	AU076645	AU076645	331	11.6	52.7	95	9	CG529416	OST109811	CG529416	
C 259	11.6	52.7	66	2	BF645211	NE034E01E	332	11.6	52.7	96	9	CG509445	OST60590	CG509445	
C 260	11.6	52.7	67	1	AL668668	AL668668	333	11.6	52.7	96	9	CG514601	OST68464	CG514601	
C 261	11.6	52.7	67	8	AZ331562	IM0059M03	334	11.6	52.7	96	9	CG586584	OST235308	CG586584	
C 262	11.6	52.7	67	8	CL791727	RR2363.Ba	335	11.6	52.7	96	9	CG660312	OST439738	CG660312	
C 263	11.6	52.7	68	8	CC177925	XST020.Ba	336	11.6	52.7	97	1	AA207690	mv79PD04.r	AA207690	
C 264	11.6	52.7	68	9	CG521445	OST89590	337	11.6	52.7	97	8	AZ292268	SLC0C3C07	AZ292268	
C 265	11.6	52.7	69	1	AA731472	nz98E09.s	338	11.6	52.7	98	1	AA510729	vh06E07.r	AA510729	
C 266	11.6	52.7	69	5	BQ087739	rt08C08.Y	339	11.6	52.7	98	2	AM099021	sd33B09.Y	AM099021	
C 267	11.6	52.7	69	6	CD940612	RAP_32.Ge	340	11.6	52.7	98	2	BB957790	OST336691	BB957790	
C 268	11.6	52.7	69	7	F30220	HSFD20568.H	341	11.6	52.7	98	9	CG627193	OST336691	CG627193	
C 269	11.6	52.7	70	1	AI877088	vz73G03.r	342	11.6	52.7	99	9	HS8427865	Hom0_sap1	AJ275885	
C 270	11.6	52.7	70	9	CG574624	OST207666	343	11.6	52.7	99	9	CL519041	SAG3E09.F	CL519041	
C 271	11.6	52.7	71	7	D25830	HUMGS04200	344	11.6	52.7	99	9	AG237560	Lotus cor	AG237560	
C 272	11.6	52.7	72	5	BQ087737	rt08C06.Y	345	11.6	52.7	100	1	AV775376	AV775376	AV775376	
C 273	11.6	52.7	72	5	BQ087781	rt08G07.Y	346	11.6	52.7	100	1	AA546444	XK02F09.r	AA546444	
C 274	11.6	52.7	72	8	R86940	YQ31d07.s1	347	11.6	52.7	100	5	BP752024	BP752024	BP752024	
C 275	11.6	52.7	72	8	AZ758556	IM0550B11	348	11.6	52.7	100	8	BZ425248	100027968	BZ425248	
C 276	11.6	52.7	72	9	CG892478	O2S2019-0	349	11.6	52.7	100	8	BZ689993	M008E02.G	BZ689993	
C 277	11.6	52.7	73	1	AA497061	aa42d03.s	350	11.6	52.7	100	9	HSWC06E08	H.sapiens.D	XH8852.H	
C 278	11.6	52.7	73	4	BM121542	AO1h23.cd	351	11.6	52.7	100	9	CG647263	OST395337	CG647263	
C 279	11.6	52.7	73	9	CL211288	M050E07.G	352	11.4	51.8	100	8	AZ663083	IM0542H02	AZ663083	
C 280	11.6	52.7	74	1	AV913881	AV913881	353	11.4	51.8	100	8	CA968184	CLX07a26	CA968184	
C 281	11.6	52.7	74	8	AZ958386	2M0225109	354	11.4	51.8	100	4	T27200	MTO-143.Hum	T27200	
C 282	11.6	52.7	75	2	AM667572	GA_Ea000	355	11.4	51.8	100	4	BG166886	602345073	BG166886	
C 283	11.6	52.7	75	9	BX132834	Danio rer	356	11.4	51.8	100	4	BQ835838	602345073	BQ835838	
C 284	11.6	52.7	75	9	CG561496	OST183088	357	11.4	51.8	100	5	BB057512	rF58605.Y	BB057512	
C 285	11.6	52.7	76	1	AU076462	AU076462	358	11.4	51.8	100	5	BE057512	gn03B07.Y	BE057512	
C 286	11.6	52.7	76	1	BX534550	ArabiIdops	359	11.4	51.8	100	5	BE318017	NE061E07L	BE318017	
C 287	11.6	52.7	76	9	CG526586	OST103330	360	11.4	51.8	100	5	AV965237	AV965237	AV965237	
C 288	11.6	52.7	78	9	CG526586	OST103330	361	11.4	51.8	100	5	AI684207	lw96G03.x	AI684207	
C 289	11.6	52.7	79	7	CN937024	000305AVB	362	11.4	51.8	100	5	AI773247	fc34F01.x	AI773247	
C 290	11.6	52.7	79	7	CR560685	CR560685	363	11.4	51.8	100	5	RS2962	yg85B12.r1	RS2962	
C 291	11.6	52.7	79	9	T86199	yd78G09.r1	364	11.4	51.8	100	5	CR111119	Forward.s	CR111119	
C 292	11.6	52.7	79	9	AL768256	ArabiIdops	365	11.4	51.8	100	5	BI826636	603077090	BI826636	
C 293	11.6	52.7	80	9	CG517928	OST78888	366	11.4	51.8	100	5	AI537285	lp07B10.x	AI537285	
C 294	11.6	52.7	80	9	CL256513	AE0764.Sa	367	11.4	51.8	100	5	AI662714	va88C01.x	AI662714	
C 295	11.6	52.7	81	9	AL943185	ArabiIdops	368	11.4	51.8	100	5	BH908898	SALK_0511	BH908898	
C 296	11.6	52.7	82	1	AV950678	AV950678	369	11.4	51.8	100	4	BI550536	603135461	BI550536	
C 297	11.6	52.7	82	4	BG522550	22-72.Ste	370	11.4	51.8	100	4	T74753	yc59a12.s1	T74753	
C 298	11.6	52.7	82	7	CN931534	000427AFB	371	11.4	51.8	100	1	AA732060	n287d11.s	AA732060	
C 299	11.6	52.7	83	6	DA32378	D43278.Rice	372	11.4	51.8	100	1	AI858571	w140a01.s	AI858571	
C 300	11.6	52.7	83	6	CA748367	NS_EST_33	373	11.4	51.8	100	1	AV768562	AV768562	AV768562	
C 301	11.6	52.7	83	6	CD963460	SDU_45-Ge	374	11.4	51.8	100	1	BX289007	ArabiIdops	BX289007	
C 302	11.6	52.7	83	9	AL938099	ArabiIdops	375	11.4	51.8	100	1	BQ592229	E012698-0	BQ592229	
C 303	11.6	52.7	84	6	CF047193	QCK5e05.Y	376	11.4	51.8	100	6	AL769254	ArabiIdops	AL769254	
C 304	11.6	52.7	84	7	CNS88141	TTE000054	377	11.4	51.8	100	6	BH813786	SAUK_0652	BH813786	
C 305	11.6	52.7	84	8	AA0034108	1(2)06655	378	11.4	51.8	100	6	CG514817	OST68769	CG514817	
C 306	11.6	52.7	85	1	AI957376	n186G09.x	379	11.4	51.8	100	6	AU014109	AU014109	AU014109	
C 307	11.6	52.7	85	1	AA462449	vg67L09.r	380	11.4	51.8	100	6	CD409948	GM_ck3721	CD409948	
C 308	11.6	52.7	85	2	BE917347	601666249	381	11.4	51.8	100	6	CNS65472	lag26e12.	CNS65472	
C 309	11.6	52.7	85	9	CR012610	Forward.s	382	11.4	51.8	100	6	AZ968687	2M0241E12	AZ968687	
C 310	11.6	52.7	85	9	CG617097	OST310183	383	11.4	51.8	100	6	BK627201	BK627201	BK627201	
C 311	11.6	52.7	85	9	CL315441	RR4465.Ba	384	11.4	51.8	100	6	CD944096	RD0_16.Ge	CD944096	
C 312	11.6	52.7	86	9	CG573905	OST206105	385	11.4	51.8	100	6	AI302331	g017H03.x	AI302331	
C 313	11.6	52.7	88	1	AA255719	z821a08.r	386	11.4	51.8	100	6	CO2047	HUMGS000539	CO2047	
C 314	11.6	52.7	88	5	BUB73370	Q054F02.P	387	11.4	51.8	100	9	CL610271	EY10126-5	CL610271	
C 315	11.6	52.7	88	6	CO0366	HUMGS000362	388	11.4	51.8	100	9	CR204965	Forward.s	CR204965	
C 316	11.6	52.7	88	7	CK428438	1aj26B05.	389	11.4	51.8	100	7	CO511957	813d6G07B	CO511957	

C 390	11.4	51.8	73	8	AZ959023	AZ959023	2M02260T1	463	11.4	51.8	97	8	BH902095	BH902095	SALK_0912
C 391	11.4	51.8	74	1	AA795133	AA795133	Vq94a03..r	C 464	11.4	51.8	98	1	AJ691874	AJ691874	Cu991874
C 392	11.4	51.8	74	6	CD944632	RDL_75	Ge	465	11.4	51.8	98	6	CD923909	G750_110L	CD923909
C 393	11.4	51.8	74	6	CD945661	RRC_27	Ge	466	11.4	51.8	98	7	CR581047	CR581047	CR581047
C 394	11.4	51.8	74	6	CD967837	SRY_29	Ge	467	11.4	51.8	98	7	FR0040079	FR0040079	FR0040079
C 395	11.4	51.8	74	8	B41521	HS-1053-B2-		C 468	11.4	51.8	99	9	BK239727	BK239727	Danio rer
C 396	11.4	51.8	75	5	B0874547	Q069C06_P		469	11.4	51.8	99	9	CG526845	CG526845	CG526845
C 397	11.4	51.8	75	8	BH755674	SAIK_0520		470	11.4	51.8	100	1	AA795142	AA795142	AA795142
C 398	11.4	51.8	76	6	DMES45383	AJ545383	Drosophila	C 471	11.4	51.8	100	2	BF174261	BF174261	MYE2854_M
C 399	11.4	51.8	75	6	CB003846	VYB033H06		C 472	11.4	51.8	100	4	BJ018457	BJ018457	BJ018457
C 400	11.4	51.8	77	4	BG408703	QB77a09..Y		C 473	11.4	51.8	100	4	BJ803031	BJ803031	BJ803031
C 401	11.4	51.8	77	7	CN866695	0J02022AM		C 474	11.4	51.8	100	6	CB298760	CB298760	220022_re
C 402	11.4	51.8	77	9	AL760117	Arabiidops		C 475	11.4	51.8	100	9	BK945484	BK945484	Arabiidops
C 403	11.4	51.8	79	8	BH808607	1008081E0		C 476	11.2	50.9	29	8	BZ291176	BZ291176	SALK_1175
C 404	11.4	51.8	80	7	R26902	yh46c04..s1		C 477	11.2	50.9	31	8	BH848251	BH848251	SALK_0677
C 405	11.4	51.8	80	9	CL303535	M040B05_G		C 478	11.2	50.9	32	8	BH903706	BH903706	SALK_1031
C 406	11.4	51.8	81	6	CD743804	IRB10_D06		C 479	11.2	50.9	32	8	BH903708	BH903708	SALK_1031
C 407	11.4	51.8	81	8	AZ776816	2M0010J14		C 480	11.2	50.9	32	8	BH903709	BH903709	SALK_1031
C 408	11.4	51.8	81	9	CG501841	OST45990		C 481	11.2	50.9	32	9	BK950069	BK950069	Arabiidops
C 409	11.4	51.8	82	7	D20995	HUMG01977		C 482	11.2	50.9	32	8	BH856945	BH856945	SALK_0775
C 410	11.4	51.8	83	4	BG362089	GP51A03..Y		C 483	11.2	50.9	36	8	BH856991	BH856991	SALK_0774
C 411	11.4	51.8	83	9	CG477650	OST7628_M		C 484	11.2	50.9	37	8	AZ448651	AZ448651	IM0246P20
C 412	11.4	51.8	83	9	CG526194	OST102577		C 485	11.2	50.9	37	8	BZ767897	BZ767897	SALK_1395
C 413	11.4	51.8	84	4	BI8477040	f556e07..x		C 486	11.2	50.9	38	8	BZ768886	BZ768886	SALK_1411
C 414	11.4	51.8	84	6	CB815309	N161V-C11		C 487	11.2	50.9	40	8	BH854019	BH854019	SALK_0786
C 415	11.4	51.8	84	7	CN866451	001010AM		C 488	11.2	50.9	41	9	AJ593289	AJ593289	Arabiidops
C 416	11.4	51.8	84	9	BX661956	Arabiidops		C 489	11.2	50.9	42	9	TA242A07Q	TA242A07Q	Arabiidops
C 417	11.4	51.8	84	9	CG485164	OST19414		C 490	11.2	50.9	44	8	BZ769153	BZ769153	SALK_1416
C 418	11.4	51.8	84	9	CG662255	OST445265		C 491	11.2	50.9	46	8	BZ533661	BZ533661	SALK_1210
C 419	11.4	51.8	85	6	CB355456	ZF001-P00		C 492	11.2	50.9	46	8	BZ253562	BZ253562	SALK_1210
C 420	11.4	51.8	86	4	BG237303	6aB05H04..		C 493	11.2	50.9	47	8	BH855469	BH855469	SALK_0857
C 421	11.4	51.8	86	9	CL210772	M013C01_G		C 494	11.2	50.9	49	1	AI139346	AI139346	t54f05..x
C 422	11.4	51.8	87	2	BE058847	sn21E12..Y		C 495	11.2	50.9	49	1	AJ0102956	AJ0102956	AU102956
C 423	11.4	51.8	87	2	CC516849	CH240_362		C 496	11.2	50.9	50	1	AU106263	AU106263	AU106263
C 424	11.4	51.8	88	1	AA192727	zG12d02..r		C 497	11.2	50.9	50	1	AV521339	AV521339	AV521339
C 425	11.4	51.8	88	1	AA616098	VQ96A01..r		C 498	11.2	50.9	51	1	AU521239	AU521239	G2-P1_Aro
C 426	11.4	51.8	88	5	BP032240	BP032240		C 499	11.2	50.9	51	4	BI817679	BI817679	BI817679
C 427	11.4	51.8	88	7	T99680	ye67d08..r1		C 500	11.2	50.9	52	2	AM692215	AM692215	NF048H04S
C 428	11.4	51.8	88	7	CG561981	OST184008		C 501	11.2	50.9	52	8	AZ788258	AZ788258	2M0035B14
C 429	11.4	51.8	89	1	AI1361915	GY37b02..x		C 502	11.2	50.9	52	8	BZ379285	BZ379285	SALK_1131
C 430	11.4	51.8	89	1	AU012659	AU012659		C 503	11.2	50.9	52	9	CN804385	CN804385	Tetradodon
C 431	11.4	51.8	89	9	BX650428	Arabiidops		C 504	11.2	50.9	54	6	CB382123	CB382123	TGESTzyh3
C 432	11.4	51.8	89	9	CR400439	Arabiidops		C 505	11.2	50.9	55	8	BH842310	BH842310	1008031D0
C 433	11.4	51.8	89	9	CG521738	OST90305		C 506	11.2	50.9	56	8	BZ287928	BZ287928	SALK_0213
C 434	11.4	51.8	89	9	CG580362	OST219686		C 507	11.2	50.9	58	1	AA769799	AA769799	ah71d02..8
C 435	11.4	51.8	90	1	AA248842	18874..seq		C 508	11.2	50.9	58	6	CB382241	CB382241	TGESTzyh4
C 436	11.4	51.8	90	2	BF592980	7197g08..x		C 509	11.2	50.9	59	8	CC458091	CC458091	SALK_1158
C 437	11.4	51.8	90	7	NS0460	yy88a07..r1		C 510	11.2	50.9	59	6	CA584854	CA584854	LBD01373.
C 438	11.4	51.8	90	9	CR257129	Forward_s		C 511	11.2	50.9	60	6	CA586624	CA586624	LBC02280.
C 439	11.4	51.8	90	9	CG696137	BARC_BFGI		C 512	11.2	50.9	60	6	CD533476	CD533476	32A14_Ara
C 440	11.4	51.8	90	9	CL002340	02S0105-0		C 513	11.2	50.9	60	9	AJ600904	AJ600904	Arabiidops
C 441	11.4	51.8	91	1	AI1966049	sg26b02..Y		C 514	11.2	50.9	60	9	CR396148	CR396148	Arabiidops
C 442	11.4	51.8	91	1	AA531975	TGESTzy246		C 515	11.2	50.9	61	1	AI132176	AI132176	uh71e06..r
C 443	11.4	51.8	91	4	BG361580	gB55a04..Y		C 516	11.2	50.9	61	9	AL762205	AL762205	Arabiidops
C 444	11.4	51.8	91	5	BP076876	BP076876		C 517	11.2	50.9	62	1	AI1963472	AI1963472	wc63g01..x
C 445	11.4	51.8	91	5	BQ813493	1030036H1		C 518	11.2	50.9	62	1	BE350919	BE350919	htc63h1..x
C 446	11.4	51.8	91	5	B0891359	P049C10_P		C 519	11.2	50.9	62	8	AZ787597	AZ787597	2M0034E07
C 447	11.4	51.8	92	1	AA144886	mr1C06..r		C 520	11.2	50.9	62	8	BH909112	BH909112	SALK_0520
C 448	11.4	51.8	92	8	B07694	CDG93_Cri1		C 521	11.2	50.9	62	9	CG869334	CG869334	AD0448_Sa
C 449	11.4	51.8	93	7	CK109043	K020P56_P		C 522	11.2	50.9	64	6	CB305215	CB305215	3'E8F-NF1
C 450	11.4	51.8	93	8	BH863024	SALK_0929		C 523	11.2	50.9	64	7	CN587965	CN587965	TTE000051
C 451	11.4	51.8	93	8	BH863025	SAIK_0930		C 524	11.2	50.9	64	9	AL940948	AL940948	Arabiidops
C 452	11.4	51.8	93	8	BZ768413	SAIK_1401		C 525	11.2	50.9	65	9	CG729745	CG729745	1119114D1
C 453	11.4	51.8	93	9	CR183632	Reverse_s		C 526	11.2	50.9	66	1	AL900350	AL900350	AL900350
C 454	11.4	51.8	94	1	AA255829	zr84H02..8		C 527	11.2	50.9	66	9	CR217388	CR217388	Reverse_s
C 455	11.4	51.8	94	1	AA437145	zV61A03..r		C 528	11.2	50.9	67	1	AI098673	AI098673	uh38a03..r
C 456	11.4	51.8	94	1	AA492680	v177c12..r		C 529	11.2	50.9	67	8	AZ9220059	AZ9220059	1006017H0
C 457	11.4	51.8	94	8	AZ783542	2M0025H22		C 530	11.2	50.9	67	9	AG188234	AG188234	Pan_trog1
C 458	11.4	51.8	94	9	CG506137	OST55493		C 531	11.2	50.9	68	2	BE318109	BE318109	NF062G02L
C 459	11.4	51.8	95	2	AM698542	G339_g1an		C 532	11.2	50.9	68	9	CG481901	CG481901	OST14596
C 460	11.4	51.8	97	7	EM320151	z885g01..Y		C 533	11.2	50.9	69	9	CG626338	CG626338	OST334160
C 461	11.4	51.8	97	7	N82918	TGESTzy43d0		C 534	11.2	50.9	70	8	BH864621	BH864621	SALK_0963
C 462	11.4	51.8	97	8	BH233922	1006176B0		C 535	11.2	50.9	70	9	CG546804	CG546804	OST146791

C 536	11.2	50.9	71.6	CB382835	TG8STyH4	C 609	11.2	50.9	96.8	BH754048	BH754048	SNLK_0365
537	11.2	50.9	72.1	AAS85137	ATH453 HT	610	11.2	50.9	96.8	BZ763543	BZ763543	SNLK_1190
538	11.2	50.9	72.7	T84494	Yd47g12..81	611	11.2	50.9	96.9	BX663336	BX663336	ArabiIdops
539	11.2	50.9	72.9	DR39C248	Danio rer	612	11.2	50.9	97.1	CR396555	CR396555	ArabiIdops
540	11.2	50.9	72.9	CC882742	01S0784-0	613	11.2	50.9	97.1	AL962641	AL962641	ArabiIdops
541	11.2	50.9	72.9	CG400413	01S0630-0	614	11.2	50.9	97.7	T89026	T89026	Yc84d01..81
542	11.2	50.9	73.1	AA757896	Z942908..8	615	11.2	50.9	97.8	BZ664754	BZ664754	SNLK_1100
543	11.2	50.9	73.1	AI785511	Uj43d02..x	616	11.2	50.9	97.9	AL771791	AL771791	ArabiIdops
544	11.2	50.9	73.6	CAS58005	LBD01552..	617	11.2	50.9	98.5	BK755518	BK755518	ArabiIdops
545	11.2	50.9	73.6	CB754532	TG8STyH9	618	11.2	50.9	98.6	CF019377	CF019377	OBNI8905..
546	11.2	50.9	73.8	AZ920626	1006020G0	619	11.2	50.9	98.8	BZ661727	BZ661727	SNLK_0252
547	11.2	50.9	74.8	AZ321510	1M0042B11	620	11.2	50.9	98.8	CC057294	CC057294	SNLK_1188
548	11.2	50.9	74.8	BH791832	SNLK_0615	621	11.2	50.9	98.8	CC057296	CC057296	SNLK_1188
549	11.2	50.9	74.9	CG560674	OST181451	622	11.2	50.9	98.9	CR175365	CR175365	Forward s
550	11.2	50.9	75.4	B1532950	1024126A0	623	11.2	50.9	99.4	BM566739	BM566739	Kj05c08..y
551	11.2	50.9	75.6	CD457927	FG04d_031	624	11.2	50.9	99.6	CF051596	CF051596	OCM28d10..
552	11.2	50.9	75.6	BH789627	SNLK_0404	625	11.2	50.9	99.7	N60605	N60605	TG8STyZ17h1
553	11.2	50.9	75.9	CG400469	01S0630-0	626	11.2	50.9	99.7	X85640	X85640	HS46ABEST hu
554	11.2	50.9	76.1	AI900345	sc04d07..y	627	11.2	50.9	99.9	CC886668	CC886668	SNLK_1488
555	11.2	50.9	76.1	AI971293	w27f01..x	628	11.2	50.9	99.9	CG653891	CG653891	OST42010
556	11.2	50.9	76.1	AA498876	v186g12..x	629	11.2	50.9	100.2	AM798590	AM798590	RC2-UM005
557	11.2	50.9	76.2	BE027432	REESTea43	630	11.2	50.9	100.4	BG272807	BG272807	nah90G06..
558	11.2	50.9	76.5	BU838018	ArabiIdops	631	11.2	50.9	100.8	BH809972	BH809972	SNLK_0368
559	11.2	50.9	76.6	CD964387	SEB_86 Ge	632	11.2	50.9	100.8	BH851873	BH851873	SNLK_0736
560	11.2	50.9	77.6	BQ824304	1030117E1	633	11.2	50.9	100.8	BH908171	BH908171	SNLK_0461
561	11.2	50.9	77.9	BX892170	ArabiIdops	634	11.2	50.9	100.9	CR130910	CR130910	Reverse s
562	11.2	50.9	78.6	CD743805	IRB10_H10	635	11.2	50.9	100.9	AZ651343	AZ651343	1M0522D06
563	11.2	50.9	78.9	BX572116	ArabiIdops	636	11.2	50.9	100.9	AV957181	AV957181	AV957181
564	11.2	50.9	79.1	AA902533	01S8d05..8	637	11.2	50.9	100.9	AT032495	AT032495	CW97406..8
565	11.2	50.9	79.7	R73530	Yj95d10..x1	638	11.2	50.9	100.9	AZ469830	AZ469830	1M0283M03
566	11.2	50.9	80.6	CD384499	PTMM09672	639	11.2	50.9	100.9	AZ833680	AZ833680	2M0116F18
567	11.2	50.9	80.8	AZ320911	1M0041B16	640	11.2	50.9	100.9	AA416444	AA416444	vd11c01..8
568	11.2	50.9	80.9	BX652009	ArabiIdops	641	11.2	50.9	100.9	AZ953988	AZ953988	2M0219B01
569	11.2	50.9	80.9	CG623274	OST324683	642	11.2	50.9	100.9	CL844507	CL844507	EY12526-5
570	11.2	50.9	81.1	AV952139	ArabiIdops	643	11.2	50.9	100.9	BZ354154	BZ354154	SNLK_1232
571	11.2	50.9	81.2	BE027387	ECSTea43	644	11.2	50.9	100.9	DM554618	DM554618	Protoph11
572	11.2	50.9	81.6	CD743804	IRB10_D06	645	11.2	50.9	100.9	AZ769935	AZ769935	1M0571P04
573	11.2	50.9	81.8	AQ025818	1(2)K0712	646	11.2	50.9	100.9	AZ822081	AZ822081	2M0095F04
574	11.2	50.9	81.9	CG894851	0384734-0	647	11.2	50.9	100.9	BH888885	BH888885	3526_1_30
575	11.2	50.9	81.9	AG249996	Lotus cor	648	11.2	50.9	100.9	AA507032	AA507032	n102G12..8
576	11.2	50.9	83.2	AM333760	S25G3 AGS	649	11.2	50.9	100.9	CR411873	CR411873	CR411873
577	11.2	50.9	84.8	BH846669	SNLK_0096	650	11.2	50.9	100.9	AG222895	AG222895	Lotus cor
578	11.2	50.9	84.8	BH853723	SNLK_0781	651	11.2	50.9	100.9	BF507260	BF507260	6916P-10
579	11.2	50.9	84.8	BH855550	0849	652	11.2	50.9	100.9	AZ617117	AZ617117	1M0448C17
580	11.2	50.9	85.4	AL767546	ArabiIdops	653	11.2	50.9	100.9	AJ239864	AJ239864	ArabiIdops
581	11.2	50.9	85.4	BG108925	HERP1881	654	11.2	50.9	100.9	AZ234187	AZ234187	2M0056U05
582	11.2	50.9	85.8	AQ025726	1(2)K0360	655	11.2	50.9	100.9	AZ799288	AZ799288	SNLK_0276
583	11.2	50.9	86.5	CNS0352X	TeIraodon	656	11.2	50.9	100.9	BZ664012	BZ664012	ArabiIdops
584	11.2	50.9	86.5	BX254003	BX254003	657	11.2	50.9	100.9	AJ589292	AJ589292	ArabiIdops
585	11.2	50.9	86.7	CNS88164	TTE000015	658	11.2	50.9	100.9	AA655316	AA655316	vg85E09..8
586	11.2	50.9	86.7	CNS88166	TTE000017	659	11.2	50.9	100.9	BI092888	BI092888	602857915
587	11.2	50.9	86.8	BZ385252	SNLK_1367	660	11.2	50.9	100.9	TA385F12Q	TA385F12Q	T..brucei
588	11.2	50.9	86.8	CG634696	OST356007	661	11.2	50.9	100.9	BM988495	BM988495	Ph66a01..y
589	11.2	50.9	87.5	BP075529	BP075529	662	11.2	50.9	100.9	BX240449	BX240449	Danio rer
590	11.2	50.9	87.6	CD961672	SDK_218 G	663	11.2	50.9	100.9	CR143035	CR143035	Forward s
591	11.2	50.9	87.7	CF773207	AG_FSL_14	664	11.2	50.9	100.9	AA219663	AA219663	Zx05f04..8
592	11.2	50.9	88.7	CK937659	ha6017xh	665	11.2	50.9	100.9	AZ346578	AZ346578	1M0081B32
593	11.2	50.9	89.6	CB815004	16iit-F7	666	11.2	50.9	100.9	DM554946	DM554946	Protoph11
594	11.2	50.9	90.5	BU038226	FucuesST2	667	11.2	50.9	100.9	BI845613	BI845613	f892f08..x
595	11.2	50.9	91.8	BH905696	SNLK_1076	668	11.2	50.9	100.9	BX288211	BX288211	ArabiIdops
596	11.2	50.9	92.6	CB378094	rg07D05..y	669	11.2	50.9	100.9	AA486705	AA486705	ab17h10..x
597	11.2	50.9	92.8	AZ761210	1M0555120	670	11.2	50.9	100.9	BE317443	BE317443	NF06FE01L
598	11.2	50.9	93.1	AI620635	1U47h10..x	671	11.2	50.9	100.9	CF982642	CF982642	ma166F10..
599	11.2	50.9	93.7	T90753	Yd41h10..81	672	11.2	50.9	100.9	BH847836	BH847836	SNLK_0605
600	11.2	50.9	93.9	AL946391	ArabiIdops	673	11.2	50.9	100.9	AL856553	AL856553	ArabiIdops
601	11.2	50.9	93.9	CG501375	OST45203	674	11.2	50.9	100.9	BM320350	BM320350	f888609..y
602	11.2	50.9	94.2	BE576515	dc40G03..y	675	11.2	50.9	100.9	AI522213	AI522213	1C179A07..x
603	11.2	50.9	94.2	BE576515	dc40G03..y	676	11.2	50.9	100.9	BI142434	BI142434	SMOV3MCM
604	11.2	50.9	94.7	CK106807	UB34DB10	677	11.2	50.9	100.9	AZ862375	AZ862375	2M0169H21
605	11.2	50.9	94.8	BZ763533	SNLK_1188	678	11.2	50.9	100.9	CR209416	CR209416	Forward s
606	11.2	50.9	95.8	BH169327	SNLK_0010	679	11.2	50.9	100.9	CG118452	CG118452	111905340
607	11.2	50.9	95.8	BZ354028	SNLK_1225	680	11.2	50.9	100.9	CG118608	CG118608	111905360
608	11.2	50.9	95.9	AG226495	Lotus cor	681	11.2	50.9	100.9	CG718626	CG718626	1119053H0

C 682	11	50.0	64	9	CG718648	CG718648	1119053H1	755	11	50.0	81	9	CR182341	Forward s
C 683	11	50.0	64	9	CG718652	CG718652	1119053H1	756	11	50.0	81	9	CG480638	CG480638
C 684	11	50.0	64	9	CG718710	CG718710	1119054B0	757	11	50.0	82	2	BE139286	BE139286
C 685	11	50.0	64	9	CG718716	CG718716	1119054B1	758	11	50.0	82	7	BU898285	BU898285
C 686	11	50.0	64	9	CG718764	CG718764	1119054D0	759	11	50.0	82	5	CN974040	CN974040
C 687	11	50.0	64	9	CG725618	CG725618	1119086B0	760	11	50.0	82	8	BH904896	BH904896
C 688	11	50.0	65	8	BZ356478	BZ356478	SALK_1291	761	11	50.0	82	9	TA380501P	TA380501P
C 689	11	50.0	65	8	CG544018	CG544018	OST140593	762	11	50.0	82	9	CL213175	CL213175
C 690	11	50.0	65	5	BP060614	BP060614	BE408576	763	11	50.0	83	1	AU339865	AU339865
C 691	11	50.0	67	2	BE408576	BE408576	601302086	764	11	50.0	83	1	AG226338	AG226338
C 692	11	50.0	67	7	CR564625	CR564625	CR564625	765	11	50.0	84	8	AF088153	AF088153
C 693	11	50.0	67	7	CNS028PV4	CNS028PV4	AL208489	766	11	50.0	84	9	AF622113	AF622113
C 694	11	50.0	68	6	CD028873	CD028873	mgmy006XB	767	11	50.0	84	9	CG527878	CG527878
C 695	11	50.0	68	6	CD944791	CD944791	RDO_6 Gen	768	11	50.0	84	9	CL459329	CL459329
C 696	11	50.0	68	6	CD958434	CD958434	SCO_286 G	769	11	50.0	85	1	AA726291	AA726291
C 697	11	50.0	68	6	CD960698	CD960698	SDF_132 G	770	11	50.0	85	1	A1000018	A1000018
C 698	11	50.0	69	1	AA902820	AA902820	oK6Bh05..s	771	11	50.0	85	9	CG538686	CG538686
C 699	11	50.0	69	1	AV843337	AV843337	AV843337	772	11	50.0	85	9	AG261397	AG261397
C 700	11	50.0	69	9	CR168856	CR168856	Forward s	773	11	50.0	86	4	BI901603	BI901603
C 701	11	50.0	69	9	CG571020	CG571020	OST200374	774	11	50.0	86	8	AZ654952	AZ654952
C 702	11	50.0	70	9	CL523772	CL523772	DAL5A06 F	775	11	50.0	86	9	CC794741	CC794741
C 703	11	50.0	71	8	BH019244	BH019244	12602d..d	776	11	50.0	87	1	AA469073	AA469073
C 704	11	50.0	71	8	CC047490	CC047490	3591_1_15	777	11	50.0	87	7	CK583619	CK583619
C 705	11	50.0	71	9	CR047969	CR047969	Reverse s	778	11	50.0	87	9	CR140549	CR140549
C 706	11	50.0	71	9	CG502111	CG502111	OST46571	779	11	50.0	88	6	CD866122	CD866122
C 707	11	50.0	72	1	A1022663	A1022663	oX05h12..x	780	11	50.0	88	7	R03334	R03334
C 708	11	50.0	72	1	AA561835	AA561835	v123d10..x	781	11	50.0	88	9	BK659987	BK659987
C 709	11	50.0	72	2	CG631425	CG631425	OST347803	782	11	50.0	88	9	CNS028FXH	CNS028FXH
C 710	11	50.0	73	2	BF28797	BF28797	SMOVL3CAN	783	11	50.0	88	9	CR159896	CR159896
C 711	11	50.0	73	7	CK125798	CK125798	SWMBL3CAN	784	11	50.0	88	9	CG696557	CG696557
C 712	11	50.0	73	9	BX127177	BX127177	Danio ref	785	11	50.0	88	9	CL256662	CL256662
C 713	11	50.0	73	9	DME546377	DME546377	Drosophila	786	11	50.0	89	7	CF917334	CF917334
C 714	11	50.0	73	9	AG226392	AG226392	Lotus cor	787	11	50.0	89	9	CR184428	CR184428
C 715	11	50.0	74	6	CAS87100	CAS87100	LBG27P44	788	11	50.0	90	6	CAS84318	CAS84318
C 716	11	50.0	74	8	AZ342065	AZ342065	1M0074KX3	789	11	50.0	90	8	BH861973	BH861973
C 717	11	50.0	74	8	AZ480239	AZ480239	1M0301P02	790	11	50.0	90	8	BH861989	BH861989
C 718	11	50.0	74	9	CG587446	CG587446	OST237054	791	11	50.0	90	9	CG629986	CG629986
C 719	11	50.0	75	1	A1053805	A1053805	q170g12..x	792	11	50.0	91	1	A1122947	A1122947
C 720	11	50.0	75	1	AA620221	AA620221	v064C05..x	793	11	50.0	91	1	AA125982	AA125982
C 721	11	50.0	76	1	AA071900	AA071900	mmh71d02..x	794	11	50.0	91	1	A1765086	A1765086
C 722	11	50.0	76	1	A1433822	A1433822	rH81h08..x	795	11	50.0	91	1	AA256895	AA256895
C 723	11	50.0	76	1	A1540113	A1540113	t409e09..x	796	11	50.0	92	2	BE493159	BE493159
C 724	11	50.0	76	1	AA197264	AA197264	q211f02..x	797	11	50.0	92	4	BM034349	BM034349
C 725	11	50.0	76	5	BP068961	BP068961	BP068961	798	11	50.0	92	6	CD620303	CD620303
C 726	11	50.0	76	8	AZ789168	AZ789168	2M0036C13	799	11	50.0	93	5	BQ234991	BQ234991
C 727	11	50.0	76	9	CC798483	CC798483	SALK_1464	800	11	50.0	93	6	CD942103	CD942103
C 728	11	50.0	77	5	CG575629	CG575629	OST209591	801	11	50.0	93	6	CD951289	CD951289
C 729	11	50.0	77	5	BU832517	BU832517	T034G12 P	802	11	50.0	93	9	CG473566	CG473566
C 730	11	50.0	77	8	BZ292554	BZ292554	SALK_1244	803	11	50.0	94	1	AA647684	AA647684
C 731	11	50.0	77	9	CG549254	CG549254	OST152329	804	11	50.0	94	1	A1032136	A1032136
C 732	11	50.0	78	4	BM270300	BM270300	sak11a03..x	805	11	50.0	94	1	A1894251	A1894251
C 733	11	50.0	78	7	CK429285	CK429285	oJ34f10..y	806	11	50.0	94	9	CG533940	CG533940
C 734	11	50.0	78	9	CG696043	CG696043	BARC_BFGL	807	11	50.0	95	1	AU256824	AU256824
C 735	11	50.0	79	1	A1789619	A1789619	u126f07..x	808	11	50.0	95	8	BH852036	BH852036
C 736	11	50.0	79	4	BM434174	BM434174	1RT03h09	809	11	50.0	95	8	BZ355017	BZ355017
C 737	11	50.0	79	5	BQ583067	BQ583067	E012098-0	810	11	50.0	95	9	CG589153	CG589153
C 738	11	50.0	79	8	AZ855035	AZ855035	2M0158120	811	11	50.0	96	8	AG216008	AG216008
C 739	11	50.0	79	8	BH229536	BH229536	1006152H0	812	11	50.0	96	8	AZ835550	AZ835550
C 740	11	50.0	79	8	BH902932	BH902932	SALK_1015	813	11	50.0	96	8	BH608902	BH608902
C 741	11	50.0	79	8	CC060087	CC060087	EY01553-3	814	11	50.0	97	1	AA767103	AA767103
C 742	11	50.0	79	9	CR075970	CR075970	Forward s	815	11	50.0	97	4	BI881470	BI881470
C 743	11	50.0	79	9	CR165629	CR165629	Reverse s	816	11	50.0	97	4	BM777153	BM777153
C 744	11	50.0	79	9	CG580482	CG580482	OST219875	817	11	50.0	97	8	BH449992	BH449992
C 745	11	50.0	80	1	AA897329	AA897329	a147e10..s	818	11	50.0	97	8	CC177913	CC177913
C 746	11	50.0	80	4	BI845278	BI845278	f692f08..y	819	11	50.0	97	8	CC177914	CC177914
C 747	11	50.0	80	8	BZ770515	BZ770515	SALK_1434	820	11	50.0	97	8	CC177918	CC177918
C 748	11	50.0	80	9	BX002547	BX002547	Arabidops	821	11	50.0	97	8	CC177919	CC177919
C 749	11	50.0	80	9	CG516399	CG516399	OST74984	822	11	50.0	97	8	CC177920	CC177920
C 750	11	50.0	81	1	A1066019	A1066019	BSBMFMS20	823	11	50.0	97	8	CC177921	CC177921
C 751	11	50.0	81	1	A1155686	A1155686	z070c12..x	824	11	50.0	97	8	CC177922	CC177922
C 752	11	50.0	81	8	BH895827	BH895827	3526_1_35	825	11	50.0	97	8	CC177928	CC177928
C 753	11	50.0	81	8	BZ593881	BZ593881	SALK_0823	826	11	50.0	97	9	AU599903	AU599903
C 754	11	50.0	81	9	BX003728	BX003728	Arabidops	827	11	50.0	97	9	H50227831	H50227831

828	11	50.0	97	9	CG544224	OST141166	901	10.8	49.1	58	8	BZ584899	BZ584899	3590.1.61
C 829	11	50.0	97	7	CG587418	OST236993	902	10.8	49.1	59	6	CA408022	CA408022	DDF-15.1
C 830	11	50.0	98	7	F29521	HSPD19440 H	C 903	10.8	49.1	59	8	BZ762290	BZ762290	SALK_0978
C 831	11	50.0	98	8	BZ353353	SALK_1202	C 904	10.8	49.1	59	9	CL569553	CL569553	AF0569.5a
C 832	11	50.0	99	1	AV968286	AV968286	C 905	10.8	49.1	60	2	BF640746	BF640746	NP037H071
C 833	11	50.0	99	2	AA497530	vh27h01.r	C 906	10.8	49.1	60	9	CNS03T2H	CNS03T2H	AL293288
C 834	11	50.0	99	2	BE614180	601504053.	C 907	10.8	49.1	60	9	CR071682	CR071682	Tetradon
C 835	11	50.0	99	4	BG610773	602612593	C 908	10.8	49.1	61	1	AI183364	AI183364	Forward
C 836	11	50.0	99	7	T11103	hbc671 Huma	C 909	10.8	49.1	61	1	AA499123	AA499123	uc54T06.r
C 837	11	50.0	99	9	DR24A15T	Danio rer	C 910	10.8	49.1	61	9	AL771232	AL771232	Arabidops
C 838	11	50.0	99	9	AG217852	Drosoph11	C 911	10.8	49.1	61	9	CG581217	CG581217	OST221334
C 839	11	50.0	100	1	AA909863	o109h02.8	C 912	10.8	49.1	61	9	CG581764	CG581764	OST357200
C 840	11	50.0	100	1	AA937332	Oj03d03.s	C 913	10.8	49.1	61	9	CG635221	CG635221	OST357200
C 841	11	50.0	100	1	AA994167	o61a10.s	C 914	10.8	49.1	62	9	TAL16A07Q	TAL16A07Q	Arabidops
C 842	11	50.0	100	1	AI217273	qf74f10.x	C 915	10.8	49.1	62	7	R87250	R87250	y046e05.s1
C 843	11	50.0	100	1	AA575512	AV432099	C 916	10.8	49.1	63	8	AZ845286	AZ845286	2M0145F06
C 844	11	50.0	100	3	AV432099	Ades aeg	C 917	10.8	49.1	63	8	AM626496	AM626496	SMOVAFCAP
C 845	11	50.0	100	4	BM403522	znm4793.Z	C 918	10.8	49.1	63	9	CNS01RKY	CNS01RKY	SMOVAFCAP
C 846	11	50.0	100	6	CD921645	G750..001G	C 919	10.8	49.1	63	9	CR003032	CR003032	Reverse
C 847	11	50.0	100	8	AZ335831	IM0065N05	C 920	10.8	49.1	63	9	CG631431	CG631431	OST347811
C 848	11	50.0	100	8	BH811840	SALK_0602	C 921	10.8	49.1	63	9	AG191228	AG191228	Pan trogl
C 849	11	50.0	100	9	CR297714	Medicago	C 922	10.8	49.1	64	2	AM626496	AM626496	SMOVAFCAP
C 850	10.8	49.1	21	8	HSMC03A11	X88535.H.sapiens.D	C 923	10.8	49.1	64	2	AM626513	AM626513	SMOVAFCAP
C 851	10.8	49.1	31	8	AZ863661	2M0171E24	C 924	10.8	49.1	64	2	AM651837	AM651837	SMOVAFCAP
C 852	10.8	49.1	32	6	CA853264	B06C01.se	C 925	10.8	49.1	64	6	CB215451	CB215451	NISC_np06
C 853	10.8	49.1	32	9	AL762514	Arabidops	C 926	10.8	49.1	64	8	BZ287325	BZ287325	SALK_0206
C 854	10.8	49.1	34	9	TA373F08P	AL496425.T.brucel	C 927	10.8	49.1	64	9	BX534469	BX534469	Arabidops
C 855	10.8	49.1	35	9	TA196D120	AL477870.T.brucel	C 928	10.8	49.1	64	9	CC935748	CC935748	bat6009.b
C 856	10.8	49.1	36	9	TA57D02Q	AL465946.T.brucel	C 929	10.8	49.1	65	2	BF643538	BF643538	NP021H06E
C 857	10.8	49.1	37	8	AZ809105	AZ809105	C 930	10.8	49.1	65	8	BZ766593	BZ766593	SALK_1375
C 858	10.8	49.1	38	8	AZ860617	AZ860617	C 931	10.8	49.1	65	9	CC053332	CC053332	SALK_0423
C 859	10.8	49.1	39	1	AV833097	AV833097	C 932	10.8	49.1	65	8	CR039310	CR039310	Forward
C 860	10.8	49.1	42	4	B1665361	603288893	C 933	10.8	49.1	66	1	AA885769	AA885769	nx23f07.s
C 861	10.8	49.1	42	8	AZ412527	1M016H03	C 934	10.8	49.1	66	6	CA408226	CA408226	mgm004xC
C 862	10.8	49.1	43	8	AZ423799	1M0203M19	C 935	10.8	49.1	66	8	AZ245531	AZ245531	1M0608H20
C 863	10.8	49.1	43	8	AZ823763	2M0098C03	C 936	10.8	49.1	67	1	AI180596	AI180596	uc67c04.r
C 864	10.8	49.1	45	9	CR399892	Arabidops	C 937	10.8	49.1	67	4	BM119593	BM119593	L0927H07-
C 865	10.8	49.1	46	1	AA504387	aa59c05.r	C 938	10.8	49.1	67	8	BZ380365	BZ380365	SALK_1150
C 866	10.8	49.1	46	9	BX289452	Arabidops	C 939	10.8	49.1	68	1	AI313567	AI313567	EST021.Mo
C 867	10.8	49.1	47	8	BZ289353	SALK_0227	C 940	10.8	49.1	68	5	B0760467	B0760467	EBR002.SO
C 868	10.8	49.1	48	8	AZ778499	AZ778499	C 941	10.8	49.1	68	7	CO374721	CO374721	tah19a03.
C 869	10.8	49.1	48	8	AZ843479	2M0142C23	C 942	10.8	49.1	68	8	AF262413	AF262413	Arabidops
C 870	10.8	49.1	49	1	AA684136	vm53b12.r	C 943	10.8	49.1	68	8	AZ310130	AZ310130	1M0018N22
C 871	10.8	49.1	49	1	AA437396	aa84a08.r	C 944	10.8	49.1	68	9	BX288547	BX288547	Arabidops
C 872	10.8	49.1	50	1	AU104252	AU104252	C 945	10.8	49.1	69	8	BZ298804	BZ298804	SALK_0232
C 873	10.8	49.1	50	1	AU104254	AU104254	C 946	10.8	49.1	69	8	CC940874	CC940874	01S0515-0
C 874	10.8	49.1	50	1	AU105056	AU105056	C 947	10.8	49.1	70	1	AA701180	AA701180	zj79e06.s
C 875	10.8	49.1	50	1	AU105065	AU105065	C 948	10.8	49.1	70	1	AJ795334	AJ795334	Arabidops
C 876	10.8	49.1	50	1	AU105066	AU105066	C 949	10.8	49.1	70	1	AL872259	AL872259	Arabidops
C 877	10.8	49.1	50	1	AU105074	AU105074	C 950	10.8	49.1	70	7	CO374771	CO374771	tah19a01.
C 878	10.8	49.1	50	1	AU105083	AU105083	C 951	10.8	49.1	70	7	CO374773	CO374773	tah19a03.
C 879	10.8	49.1	50	1	AU106912	AU106912	C 952	10.8	49.1	70	8	AZ502277	AZ502277	1M0341D20
C 880	10.8	49.1	50	8	CC456829	SALK_1009	C 953	10.8	49.1	70	8	BZ765083	BZ765083	SALK_1283
C 881	10.8	49.1	50	9	BX657064	Arabidops	C 954	10.8	49.1	70	9	BX893674	BX893674	Arabidops
C 882	10.8	49.1	51	8	TA239F06P	AL481728.T.brucel	C 955	10.8	49.1	71	1	AA554463	AA554463	nk30g01.s
C 883	10.8	49.1	51	8	BH850031	SALK_0706	C 956	10.8	49.1	71	5	BO482599	BO482599	ke51f04.Y
C 884	10.8	49.1	52	1	AI914671	AF66f09.x	C 957	10.8	49.1	71	6	CO1705	CO1705	HDMG000237
C 885	10.8	49.1	52	2	BF647818	NF012D01E	C 958	10.8	49.1	71	9	CR084347	CR084347	Reverse
C 886	10.8	49.1	53	8	B02175	CSRL-149c2-	C 959	10.8	49.1	72	2	AAW59639	AAW59639	sh89h04.Y
C 887	10.8	49.1	53	8	BH908302	SALK_0471	C 960	10.8	49.1	72	6	CO1050	CO1050	HDMG000716
C 888	10.8	49.1	54	8	BH644417	1008045G0	C 961	10.8	49.1	72	7	CNS52462	CNS52462	cael19f10.
C 889	10.8	49.1	54	9	AL771231	Arabidops	C 962	10.8	49.1	72	7	R86580	R86580	RABEST155M
C 890	10.8	49.1	55	1	AJ789274	AJ789274	C 963	10.8	49.1	72	7	CG536505	CG536505	OST124516
C 891	10.8	49.1	55	8	BH758872	P13.Why10	C 964	10.8	49.1	73	1	AA443518	AA443518	zw34f07.r
C 892	10.8	49.1	55	8	BX892559	Arabidops	C 965	10.8	49.1	73	4	BG485886	BG485886	SMOV3CAM
C 893	10.8	49.1	56	2	AW012879	IDT-0032	C 966	10.8	49.1	73	6	CB832342	CB832342	SMOV3CAM
C 894	10.8	49.1	56	6	CF296065	30DGS--06	C 967	10.8	49.1	73	8	CK725944	CK725944	SWMD33CAM
C 895	10.8	49.1	56	8	AZ603070	1M0422G11	C 968	10.8	49.1	73	8	BZ594099	BZ594099	SALK_0828
C 896	10.8	49.1	56	8	BH857563	SALK_0172	C 969	10.8	49.1	73	8	CC457205	CC457205	SALK_1072
C 897	10.8	49.1	57	8	BH862128	SALK_0888	C 970	10.8	49.1	73	9	AL760795	AL760795	Arabidops
C 898	10.8	49.1	57	8	BH902544	SALK_0919	C 971	10.8	49.1	73	9	TA244D10Q	TA244D10Q	T.brucel
C 899	10.8	49.1	58	1	AI121408	uc32h09.r	C 972	10.8	49.1	73	9	CG630078	CG630078	OST1344987
C 900	10.8	49.1	58	7	CN770827	taf27f01.	C 973	10.8	49.1	74	7	CN757215	CN757215	ID0AAA1BG

```
C 974 10.8 49.1 74 9 AL946921 Arabidops
C 975 10.8 49.1 74 9 BX004406 Arabidops
C 976 10.8 49.1 74 9 CR171048 Forward s
C 977 10.8 49.1 74 9 CR173629 Reverse s
C 978 10.8 49.1 74 9 CR232981 Reverse s
C 979 10.8 49.1 74 9 CG512126 OST64889
C 980 10.8 49.1 75 1 AJ770127 AJ770127
C 981 10.8 49.1 75 6 CD964932 SBG_286 G
C 982 10.8 49.1 75 8 CC458958 SALK_1231
C 983 10.8 49.1 75 9 CR018010 Reverse s
C 984 10.8 49.1 75 9 AG204575 Pan trogl
C 985 10.8 49.1 76 2 AM228383 up21h10.Y
C 986 10.8 49.1 76 7 T60703 Yb65911.s1
C 987 10.8 49.1 76 9 CG496721 OST36933
C 988 10.8 49.1 77 4 BI704104 r053a02.Y
C 989 10.8 49.1 77 4 BI742940 kx36h07.Y
C 990 10.8 49.1 77 7 D34523 CELK005D7R
C 991 10.8 49.1 77 8 BZ661787 SALK_0252
C 992 10.8 49.1 77 9 CG494659 OST33662
C 993 10.8 49.1 77 9 AG263339 Lotus cor
C 994 10.8 49.1 78 6 CD743805 IRB10_H10
C 995 10.8 49.1 79 7 CK352030 h9gfha47C
C 996 10.8 49.1 80 6 CD403854 Cm_CK2663
C 997 10.8 49.1 80 6 CD857030 DH0A2ZG1
C 998 10.8 49.1 80 7 CF982776 mJ92h11.
C 999 10.8 49.1 80 8 BH848435 SALK_0682
1000 10.8 49.1 80 9 AG242157 Lotus cor
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## ALIGNMENTS

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RESULT 1
AZ431742 63 bp DNA linear GSS 03-OCT-2000
LOCUS 1M0216018R Mouse 10kb plasmid UUGCIM library Mus musculus genomic
DEFINITION clone UUGCIM0216018 R, genomic survey sequence.
ACCESSION AZ431742
VERSION AZ431742.1 GI:10555755
KEYWORDS GSS.
SOURCE Mus musculus (house mouse)
ORGANISM Mus musculus
```

REFERENCE 1 (bases 1 to 63)

AUTHORS Dunn,D., Aoyagi,A., Barber,M., Beacom,T., Duval,B., Hamil,C., Islam,H., Longacre,S., Mahmoud M., Meenen,E., Pedersen,T., Reilly,M., Rose,M., Rose,R., Stokes,R., Tingey,A., von Niederhausern,A. and Wright,D., Weiss,R.

TITLE Mouse whole genome scaffolding with paired end reads from 10kb plasmid inserts

JOURNAL Unpublished (2000)

COMMENT Contact: Robert B. Weiss  
University of Utah Genome Center  
University of Utah  
Rm. 308, Biomedical Polymers Research Bldg., 20 S. 2030 E., SLC, UT  
84112, USA

Tel: 801 585 5606

Fax: 801 585 7177

Email: ddunn@genetics.utah.edu

Insert length: 10000 Std Error: 0.00

Plate: 0216 row: O column: 18

Seq primer: CACACAGAAACAGCTATGACC

Class: plasmid ends

High quality sequence stop: 63.

## FEATURES

Location/Qualifiers

1..63

/organism="Mus musculus"

/mol\_type="genomic DNA"

/strain="C57BL/6J"

/db\_xref="taxon:10090"

/clone="UUGCIM0216018"

/sex="Male"

## ORIGIN

/lab\_host="E. Coli strain XL10-Gold, T1-resistant, F-"  
/clone\_lib="Mouse 10kb plasmid UUGCIM library"  
/note="Vector: PMD42nv; Purified genomic DNA from M.  
musculus C57BL/6J (male) was obtained from the Jackson  
Laboratory Mouse DNA Resource  
(http://www.jax.org/resources/documents/dnares/). The DNA  
was hydrodynamically sheared by repeated passage through a  
0.005 inch orifice at constant velocity. The sheared DNA  
was blunt end-repaired with T4 DNA polymerase and T4  
polynucleotide kinase. Adaptor oligonucleotides were  
ligated to the blunt ends in high molar excess. The  
adapored DNA was purified and size-selected for a 9.5 to  
10.5 Kb range using preparative agarose gel  
electrophoresis. Vector DNA was prepared from a derivative  
of pMD42 (gi|4732141|gb|AF19072.1), a copy-number  
inducible derivative of plasmid RL. The vector was ligated  
with adaptors complementary to the insert adaptors and  
purified. The sheared, adapored mouse DNA was annealed to  
adapored vector DNA, and transformed into  
chemically-competent E. coli XL10-Gold (Stratagene) cells  
and selected for ampicillin resistance."

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Query Match 70.9%; Score 15.6; DB 8; Length 63;
Best Local Similarity 81.8%; Pred. No. 2.8e+03;
Matches 18; Conservative 0; Mismatches 4; Indels 0; Gaps 0;
1 TGACTGTGAACGTCGACATGA 22
36 TGAATGTGAATGTTGAAATGA 57
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```
RESULT 2
CG562292 78 bp DNA linear GSS 01-OCT-2003
LOCUS OST184609 Mus musculus 1295v/Ex Mus musculus genomic clone
DEFINITION OST184609, genomic survey sequence.
ACCESSION CG562292
VERSION CG562292.1 GI:37348879
KEYWORDS GSS.
SOURCE Mus musculus (house mouse)
ORGANISM Mus musculus
```

REFERENCE 1 (bases 1 to 78)

AUTHORS Zambrrowski,B.P., Abuhin,A., Ramirez-Solis,R., Richter,L.J., Piggett,J., BeltrandelRio,H., Buxton,E.C., Edwards,J., Finch,R.A., Fridde,C.J., Gupta,A., Hansen,G., Hu,Y., Huang,W., Jasing,C., Key,B.W., Jr., Kipp,P., Kohlhautf,B., Ma,Z.-Q., Markesich,D., Payne,R., Potter,D.G., Qian,N., Shaw,J., Schrick,U., Shi,Z.-Z., Sparks,M.J., Van Sligtenhorst,I., Vogel,P., Walke,W., Xu,N., Zhu,Q., Person,C. and Sands,A.T.

TITLE Mnk1 kinase deficiency lowers blood pressure in mice: a gene-trap screen to identify potential targets for therapeutic intervention

JOURNAL Proc. Natl. Acad. Sci. U.S.A. 100 (24), 14109-14114 (2003)

COMMENT Contact: Zambrrowski BP

OmniBank

Lexicon Genetics Incorporated

4000 Research Forest Drive, The Woodlands, TX 77381, USA

Email: materials@lexgen.com

Gene trap sequence tag generated by 3' RACE from mouse ES cells as described in Zambrrowski et al (Nature, 1998 Apr 9;392(6676):608-11)

Class: Gene Trap.

Location/Qualifiers

1..78

/organism="Mus musculus"

/mol\_type="genomic DNA"

/strain="129Sv/Ev"

/db\_xref="taxon:10090"

/clone="OST184609"

/cell\_type="embryonic stem cell"

/clone\_lib="Mus musculus 129Sv/Ev"

## ORIGIN

Query Match 69.1%; Score 15.2; DB 9; Length 78;  
 Best Local Similarity 77.3%; Pred. No. 4.7e+03;  
 Matches 17; Conservative 0; Mismatches 5; Indels 0; Gaps 0;

QY 1 TGACTGTGAACGTTGAGATGA 22  
 |||||  
 26 TGACTNTGAACGAGGAGANGA 47

RESULT 3  
 LOCUS CG578258 92 bp DNA linear GSS 02-OCT-2003  
 DEFINITION OST215285 Mus musculus 129SV/Ev Mus musculus genomic clone  
 CG578258  
 CG578258 genomic survey sequence.  
 ACCESSION CG578258.1 GI:37370507  
 VERSION  
 KEYWORDS GSS.  
 SOURCE Mus musculus (house mouse)  
 ORGANISM Mus musculus  
 Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.

REFERENCE 1 (bases 1 to 92)  
 Zambrowicz, B.P., Abuin, A., Ramirez-Solis, R., Richter, L.J., Piggett, J., Beltrande-Rio, H., Buxton, E.C., Edwards, J., Finch, R.A., Fridde, C.J., Gupta, A., Hansen, G., Hu, Y., Huang, W., Jaing, C., Key, B.W., Jr., Kipp, P., Kohlhauff, B., Ma, Z.-Q., Markesich, D., Payne, R., Potter, D.G., Qian, N., Shaw, J., Schrick, J., Shi, Z.-Z., Sparks, M.J., Van Sligtenhorst, L., Vogel, P., Walke, W., Xu, N., Zhu, Q., Person, C. and Sande, A.J.  
 Mnk1 kinase deficiency lowers blood pressure in mice: a gene-trap screen to identify potential targets for therapeutic intervention  
 Proc. Natl. Acad. Sci. U.S.A. 100 (24), 14109-14114 (2003)  
 Contact: Zambrowicz BP

TITLE  
 JOURNAL  
 COMMENT  
 OmniBank  
 Lexicon Genetics Incorporated  
 4000 Research Forest Drive, The Woodlands, TX 77381, USA  
 Email: materials@lexgen.com  
 Gene trap sequence tag generated by 3' RACE from mouse ES cells as described in Zambrowicz et al (Nature. 1998 Apr 9;392(6676):608-11)  
 Class: Gene Trap.  
 Location/Qualifiers

FEATURES  
 source  
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 /organism="Mus musculus"  
 /mol\_type="genomic DNA"  
 /strain="129SV/Ev"  
 /db\_xref="taxon:10090"  
 /clone="OST215285"  
 /cell\_type="embryonic stem cell"  
 /clone\_1ib="Mus musculus 129SV/Ev"

ORIGIN  
 Query Match 69.1%; Score 15.2; DB 9; Length 92;  
 Best Local Similarity 77.3%; Pred. No. 4.9e+03;  
 Matches 17; Conservative 0; Mismatches 5; Indels 0; Gaps 0;

QY 1 TGACTGTGAACGTTGAGATGA 22  
 |||||  
 41 TGACTNTGAACGAGGATANGA 62

RESULT 4  
 LOCUS AI133875 99 bp mRNA linear EST 16-DEC-1998  
 DEFINITION SMOVAFCAP17G08SK Onchocerca volvulus adult female CDNA (SMO98MLM-OVAF) Onchocerca volvulus CDNA clone SMOVAFCAP17G08 5', mRNA sequence.  
 AI133875  
 AI133875  
 ACCESSION AI133875.1 GI:4028663  
 VERSION  
 KEYWORDS EST.  
 SOURCE Onchocerca volvulus  
 ORGANISM Onchocerca volvulus  
 Eukaryota; Metazoa; Nematoda; Chromadorea; Spirurida; Filarioidea;

REFERENCE  
 AUTHORS Onchocercidae; Onchocerca.  
 TITLE 1 (bases 1 to 99)  
 JOURNAL Lizotte-Waniewski, M. and Williams, S.A.  
 Genes expressed in adult female stage of Onchocerca volvulus  
 Unpublished (1998)  
 COMMENT  
 Contact: Steven A. Williams  
 Molecular Parasitology  
 Smith College Department of Biological Sciences  
 Department of Biological Sciences, Clark Science Center, Smith  
 College, Northampton, MA, 01063, USA  
 Tel: 4135853826  
 Fax: 4135853786  
 Email: genome@smith.edu  
 Seq primer: pbluscript SK.  
 Location/Qualifiers

FEATURES  
 source  
 1..99  
 /organism="Onchocerca volvulus"  
 /mol\_type="mRNA"  
 /db\_xref="taxon:6282"  
 /clone="SMO98MLM-OVAF"  
 /sex="female"  
 /dev\_stage="adult"  
 /lab\_host="X11-Blue MRF"  
 /clone\_1ib="Onchocerca volvulus adult female CDNA (SMO98MLM-OVAF)"  
 /note="Vector: lambda Uni-ZAP XR; Site 1: Eco RI; Site 2: Xho I; Filarial nematode parasite of humans. Two adult female worms of Onchocerca volvulus were isolated from consenting patients and quick frozen. Adult female mRNA was converted to double-stranded cDNA using reverse transcriptase and oligo(dT) followed by RNase H and DNA pol I. The library has 7 x 10<sup>5</sup> independent recombinants and the average insert size is ~1100bp. The library was constructed by Michelle Lizotte-Waniewski with worms provided by Dr. Sara Lustigman. The library is available from Dr. Steven A. Williams, email: genome@smith.edu."

ORIGIN  
 Query Match 67.3%; Score 14.8; DB 1; Length 99;  
 Best Local Similarity 88.9%; Pred. No. 8e+03;  
 Matches 16; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

QY 5 TGTGAACGTTGAGATGA 22  
 |||||  
 8 TGTGAACGAGCGTATGA 25

RESULT 5  
 LOCUS BX536599/c 100 bp DNA linear GSS 04-APR-2004  
 DEFINITION Arabidopsis thaliana T-DNA flanking sequence GK-536G04-020337, genomic survey sequence.  
 BX536599  
 BX536599  
 ACCESSION BX536599.1 GI:31413729  
 VERSION  
 KEYWORDS GSS.  
 SOURCE Arabidopsis thaliana (thale cress)  
 ORGANISM Arabidopsis thaliana  
 Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta; Spermatophyta; Magnoliophyta; eudicotyledons; core eudicots; rosids; eurosids II; Brassicales; Brassicaceae; Arabidopsids.

REFERENCE  
 AUTHORS Li, Y., Rosso, M.G., Strizhov, N., Viehaver, P. and Weisshaar, B.  
 TITLE GABI-Kat Simplesearch: a flanking sequence tag (FST) database for the identification of T-DNA insertion mutants in Arabidopsis thaliana  
 Bioinformatics 19 (11), 1441-1442 (2003)  
 JOURNAL  
 MEDLINE 22755829  
 PUBMED 12874060  
 2  
 Rosso, M.G., Li, Y., Strizhov, N., Reiss, B., Dekker, K. and Weisshaar, B.  
 An Arabidopsis thaliana T-DNA mutagenized population (GABI-Kat) for flanking sequence tag-based reverse genetics







ORIGIN

Query Match 66.4%; Score 14.6; DB 9; Length 93;  
Best Local Similarity 77.3%; Pred. No. 1e+04;  
Matches 17; Conservative 0; Mismatches 5; Indels 0; Gaps 0;

QY 1 TGACTGTGAACGTTGCAGATGA 22  
|||||  
65 TGACTTTGAACGGGAGAGAGA 86

RESULT 8  
BX127224 72 bp DNA linear GSS 28-JAN-2003  
DEFINITION Danio rerio genomic clone DKEX-73E13, genomic survey sequence.  
ACCESSION BX127224  
VERSION BX127224.1 GI:27958174  
KEYWORDS GSS.  
SOURCE Danio rerio (zebrafish)  
ORGANISM Danio rerio  
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Actinopterygii; Neopterygii; Teleostei; Ostariophysi; Cypriniformes; Cyprinidae; Danio.  
1 (bases 1 to 72)  
Humphrey, S.J., Huckle, E. and Durham, J.L.  
Direct Submission  
Submitted (27-JAN-2003) The Sanger Institute, Wellcome Trust Genome Campus, Hinxton, Cambridgeshire, CB10 1SA, UK. E-mail enquiries: humphrey@sanger.ac.uk Unpublished  
This sequence was generated from the T7 end of BAC 73E13. 73E13 is part of the Daniokey BAC Library created by R. Plaetker and N.V. Keygene. Further details: [http://www.sanger.ac.uk/Projects/D\\_rerio/](http://www.sanger.ac.uk/Projects/D_rerio/).

FEATURES  
source Location/Qualifiers  
1..72  
/organism="Danio rerio"  
/mol\_type="genomic DNA"  
/db\_xref="taxon:7955"  
/clone="DKEX-73E13"  
/issue\_type="Testis"  
/note="Vector pindigobAC-536"

ORIGIN

Query Match 64.5%; Score 14.2; DB 9; Length 72;  
Best Local Similarity 84.2%; Pred. No. 1.6e+04;  
Matches 16; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

QY 4 CTCTGAACGTTGCAGATGA 22  
|||||  
54 CTGTAAACGTTGCAGGTTA 72

RESULT 9  
AA748429 67 bp mRNA linear EST 18-FEB-1998  
LOCUS AA748429 ny01b05.s1 NCI\_CGAP\_GCB1 Homo sapiens cDNA clone IMAGE:1270449 3', mRNA sequence.  
DEFINITION  
ACCESSION AA748429  
VERSION AA748429.1 GI:2788387  
KEYWORDS EST.  
SOURCE Homo sapiens (human)  
ORGANISM Homo sapiens  
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Primates; Catarrhini; Homiidae; Homo.  
1 (bases 1 to 67)  
NCI-CGAP <http://www.ncbi.nlm.nih.gov/ncicgap>  
National Cancer Institute, Cancer Genome Anatomy Project (CGAP), Tumor Gene Index  
Unpublished (1997)

COMMENT

Contact: Robert Strausberg, Ph.D.  
Email: [cgapsb-remail@nih.gov](mailto:cgapsb-remail@nih.gov)  
Tissue Procurement: Louis M. Staudt, M.D., Ph.D., David Allman, Ph.D., Gerald Marti, M.D.  
cDNA Library Preparation: M. Bento Soares, Ph.D., M. Fatima Bonaldo, Ph.D.  
cDNA Library Arrayed by: Greg Lennon, Ph.D.  
DNA Sequencing by: Washington University Genome Sequencing Center  
Clone distribution: NCI-CGAP clone distribution information can be found through the I.M.A.G.E. Consortium/LINL at: [www.bio.lnl.gov/biopy/image/image.html](http://www.bio.lnl.gov/biopy/image/image.html)  
Insert length: 863 Std Error: 0.00  
Seq primer: -40m13 fwd. Et from Amersham  
High quality sequence stop: 55.  
Location/Qualifiers  
1..67  
/organism="Homo sapiens"  
/mol\_type="mRNA"  
/db\_xref="taxon:9606"  
/clone="IMAGE:1270449"  
/issue\_type="germinal center B cell"  
/lab\_host="DH10B"  
/clone\_lib="NCI\_CGAP GCB1"  
/note="Vector: pT7T3D-Pac (pharmacia) with a modified polylinker; Site 1: Not I; Site 2: Eco RI; 1st strand cDNA was prepared from human tonsillar cells enriched for germinal center B cells by flow sorting (CD20+, IgD-), provided by Dr. Louis M. Staudt (NCI). Dr. David Allman (NCI) and Dr. Gerald Marti (CBER). cDNA synthesis was primed with a Not I - oligo (dT) primer  
15'-TGTTACCAATCTGAAGTCGAGCGCCGCTCATTTTCTTTTCTTTT-3'  
15'. Double-stranded cDNA was ligated to Eco RI adaptors (Pharmacia), digested with Not I and cloned into the Not I and Eco RI sites of the modified pT7T3 vector. Library went through one round of normalization, and was constructed by Bento Soares and M. Fatima Bonaldo."

ORIGIN

Query Match 63.6%; Score 14; DB 1; Length 67;  
Best Local Similarity 77.3%; Pred. No. 2e+04;  
Matches 17; Conservative 0; Mismatches 5; Indels 0; Gaps 0;

QY 1 TGACTGTGAACGTTGCAGATGA 22  
|||||  
49 TGCTTTGAAGTGGAGATGA 28

RESULT 10  
AG221379 73 bp DNA linear GSS 19-JUL-2003  
LOCUS AG221379 Lotus corniculatus var. japonicus DNA, clone: LJB05g07\_r, genomic survey sequence.  
DEFINITION  
ACCESSION AG221379  
VERSION AG221379.1 GI:26527575  
KEYWORDS GSS.  
SOURCE Lotus corniculatus var. japonicus (Lotus japonicus)  
ORGANISM Lotus corniculatus var. japonicus  
Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta; Spermatophyta; Magnoliophyta; eudicotyledons; core eudicots; rosids; eustosids I; Fabales; Fabaceae; Papilionoideae; Lotaeae; Lotus.  
1  
Sato, S., Nakamura, Y. and Tabata, S.  
Lotus japonicus BAC End sequences  
Published Only in Database (2002)  
2 (bases 1 to 73)  
Sato, S.  
Direct Submission  
Submitted (20-NOV-2002) Shusei Sato, Kazusa DNA Research Institute, The First Laboratory for Plant Gene Research; 2-6-7 Kazusa-Kamatari, Kisarazu, Chiba 292-0818, Japan (E-mail: [sseto@kazusa.or.jp](mailto:sseto@kazusa.or.jp), URL: <http://www.kazusa.or.jp/en/plant/>, Tel: 81-438-52-3935 (ex. 2336), Fax: 81-438-52-3934)

FEATURES  
source Location/Qualifiers  
1.73  
/organism="Lotus corniculatus var. japonicus"  
/mol\_type="genomic DNA"  
/strain="Miyakojima MG-20"  
/variety="japonicus"  
/db\_xref="taxon:34305"  
/clone\_lib="genomic BAC library"  
/note="VECTOR:pbeloBAC11-synonym: Lotus japonicus"

ORIGIN  
Query Match 63.6%; Score 14; DB 9; Length 73;  
Best Local Similarity 77.3%; Pred. No. 2e+04;  
Matches 17; Conservative 0; Mismatches 5; Indels 0; Gaps 0;  
Gy 1 TGACTGTGAACGTCGAGATGA 22  
Db 12 TGACTGTGAAGTCGGTATGA 33

RESULT 11  
AZ583456/c 88 bp DNA linear GSS 13-DEC-2000  
LOCUS IM0378G03F Mouse 10kb plasmid UUGCIM library Mus musculus genomic  
DEFINITION clone UUGCIM0378G03 F, genomic survey sequence.  
ACCESSION AZ583456  
VERSION AZ583456.1 GI:11703357  
KEYWORDS GSS.  
SOURCE Mus musculus (house mouse)  
ORGANISM Mus musculus  
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;  
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.  
1 (bases 1 to 88)  
Dunn,D., Aoyagi,A., Barber,M., Beacorn,T., Duval,B., Hamil,C.,  
Islan,H., Longacre,S., Mahmood,M., Meenen,E., Pedersen,T.,  
Reilly,M., Rose,M., Rose,R., Stokes,R., Tingey,A., von  
Niederhausern,A. and Wright,D.,Weiss,R.  
Mouse whole genome scaffolding with paired end reads from 10kb  
plasmid inserts  
Unpublished (2000)  
Contact: Robert B. Weiss  
University of Utah Genome Center  
University of Utah  
Rm. 308, Biomedical Polymers Research Bldg., 20 S. 2030 E., SLC, UT  
84112, USA  
Tel: 801 585 5606  
Fax: 801 585 7177  
Email: ddunn@genetics.utah.edu  
Insert Length: 10000 Std Error: 0.00  
Plate: 0378 row: G column: 03  
Seq primer: CGTTGTAAACGACGCGCACT  
Class: plasmid ends  
High quality sequence stop: 88.  
Location/Qualifiers  
1.88  
/organism="Mus musculus"  
/mol\_type="genomic DNA"  
/strain="C57BL/6J"  
/db\_xref="taxon:10090"  
/clone="UUGCIM0378G03"  
/sex="Male"  
/lab\_host="E. Coli strain XL10-Gold, T1-resistant, F-"  
/clone\_lib="Mouse 10kb plasmid UUGCIM library"  
/note="Vector: PMD22nv; Purified genomic DNA from M.  
musculus C57BL/6J (male) was obtained from the Jackson  
Laboratory Mouse DNA Resource  
(http://www.jax.org/resources/documents/dnares/). The DNA  
was hydrodynamically sheared by repeated passage through a  
0.005 inch orifice at constant velocity. The sheared DNA  
was blunt end-repaired with T4 DNA polymerase and T4  
polynucleotide kinase. Adaptor oligonucleotides were  
ligated to the blunt ends in high molar excess. The

adaptored DNA was purified and size-selected for a 9.5 to  
10.5 kb range using preparative agarose gel  
electrophoresis. Vector DNA was prepared from a derivative  
of pMD42 (g14732114|gb|AF19072.1), a copy-number  
inducible derivative of plasmid R1. The vector was ligated  
with adaptors complementary to the insert adaptors and  
purified. The sheared, adaptored mouse DNA was annealed to  
adaptored vector DNA, and transformed into  
chemically-competent E. coli XL10-Gold (Stratagene) cells  
and selected for ampicillin resistance."

ORIGIN  
Query Match 63.6%; Score 14; DB 8; Length 88;  
Best Local Similarity 77.3%; Pred. No. 2e+04;  
Matches 17; Conservative 0; Mismatches 5; Indels 0; Gaps 0;  
Gy 1 TGACTGTGAACGTCGAGATGA 22  
Db 54 TGAATGTGATGTCAGACGCA 33

RESULT 12  
BI445449 96 bp mRNA linear EST 21-AUG-2001  
LOCUS BI445449  
DEFINITION daesi1a09.y3 NICHD\_XGC\_Emb4 Xenopus laevis cDNA clone IMAGE:4680472  
5', mRNA sequence.  
ACCESSION BI445449  
VERSION BI445449.1 GI:15270156  
KEYWORDS EST.  
SOURCE Xenopus laevis (African clawed frog)  
ORGANISM Xenopus laevis  
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;  
Amphibia; Batrachia; Anura; Mesobatrachia; Pipridae; Pipidae;  
Xenopodinae; Xenopus; Xenopus.  
1 (bases 1 to 96)  
NCI-CGAP http://www.ncbi.nlm.nih.gov/ncicgap.  
cDNA library Arrayed by: The I.M.A.G.E. Consortium (LMNL)  
DNA Sequencing by: Washington University Genome Sequencing Center  
Clone distribution: Xenopus clones from this library are available  
through the I.M.A.G.E. Consortium/LMNL at: info@image.lmnl.gov  
High quality sequence stop: 85.  
Location/Qualifiers  
1.96  
/organism="Xenopus laevis"  
/mol\_type="mRNA"  
/db\_xref="taxon:8355"  
/clone="IMAGE:4680472"  
/dev\_stage="embryo, stage 31-32"  
/lab\_host="DH10B (phage-resistant)"  
/clone\_lib="NICHD\_XGC\_Emb4"  
/note="Organ: whole embryo; Vector: pCMV-SPORT6; Site 1:  
NotI; Site 2: SalI; Cloned unidirectionally. Primer: Oligo  
dT. Average insert size 2.1 kb. Constructed by Life  
Technologies. Note: This is a Xenopus Gene Collection  
(XGC) library."

ORIGIN  
Query Match 63.6%; Score 14; DB 4; Length 96;  
Best Local Similarity 77.3%; Pred. No. 2.1e+04;  
Matches 17; Conservative 0; Mismatches 5; Indels 0; Gaps 0;  
Gy 1 TGACTGTGAACGTCGAGATGA 22  
Db 2 TGATGTGATTCGTTCAAGAGA 23

RESULT 13  
AA840471 58 bp mRNA linear EST 27-FEB-1998  
LOCUS AA840471  
DEFINITION vw76610.r1 Stragene mouse heart (#937316) Mus musculus cDNA clone  
IMAGE:1260906 5', mRNA sequence.

ACCESSION AA840471  
VERSION AA840471.1 GI:2916130  
KEYWORDS EST.  
SOURCE Mus musculus (house mouse)  
ORGANISM Mus musculus

REFERENCE  
AUTHORS Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus. 1 (bases 1 to 58)  
Marra, M., Hillier, L., Allen, M., Bowles, M., Dietrich, N., Dubuque, T., Geisel, S., Kucaba, T., Lacy, M., Le, M., Martin, J., Morris, M., Schellenberg, K., Steptoe, M., Tan, F., Underwood, K., Moore, B., Theising, B., Wylie, T., Lennon, G., Soares, B., Wilson, R. and Waterston, R.  
The WashU-HMI Mouse EST Project  
Unpublished (1996)  
JOURNAL Contact: Marra M/Mouse EST Project  
COMMENT WashU-HMI Mouse EST Project  
Washington University School of Medicine  
444 Forest Park Parkway, Box 8501, St. Louis, MO 63108  
Tel: 314 286 1800  
Fax: 314 286 1810  
Email: mouseest@wustl.edu  
This clone is available royalty-free through LNL; contact the IMAGE Consortium (info@image.llnl.gov) for further information.  
WGI:663458  
Seq primer: -28ml3 rev1 ET from Amerham  
High quality sequence stop: 52.  
Location/Qualifiers  
1..58  
/organism="Mus musculus"  
/mol\_type="mRNA"  
/strain="NIH Swiss"  
/db\_xref="taxon:10090"  
/clone="IMAGE:1260906"  
/sex="pooled"  
/tissue\_type="heart"  
/dev\_stage="13 day embryos"  
/lab\_host="SOLR (kanamycin resistant)"  
/clone\_lib="Stragene mouse heart (#937316)"  
/note="Organ: heart; Vector: pBluescript SK-; Site 1: EcoRI; Site 2: XhoI; Cloned unidirectionally. Primer: Oligo dt. 93 pooled NIH/Swiss 13 day embryo hearts. Average insert size: 1.0 kb; Uni-ZAP XR Vector; ~5' adaptor sequence: 5' GAAATCGCAGCAG 3' ~3' adaptor sequence: 5' CTCGAGTTT TTT TTT TTT TTT TTT 3' "

ORIGIN  
Query Match 61.8%; Score 13.6; DB 1; Length 58;  
Best Local Similarity 80.0%; Pred. No. 3.1e+04;  
Matches 16; Conservative 0; Mismatches 4; Indels 0; Gaps 0;

QY 1 TGACTGTGACGTCGAGAT 20  
DB 23 TGACCTGAGCGTTCGTGT 42

RESULT 14  
CL524160 68 bp DNA linear GSS 02-APR-2004  
LOCUS CL524160  
DEFINITION SAO6G04 Flanking Sequence Tag of Oryza sativa T-DNA insertion lines  
Oryza sativa (japonica cultivar-group) genomic, genomic survey  
sequence.  
ACCESSION CL524160  
VERSION CL524160.1 GI:46150960  
KEYWORDS GSS.  
SOURCE Oryza sativa (japonica cultivar-group)  
Oryza sativa (japonica cultivar-group)  
Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;

REFERENCE  
AUTHORS Spermatophyta; Magnoliophyta; Liliopsida; Poales; Poaceae; Ehrhartoideae; Oryzaceae; Oryza. 1 (bases 1 to 68)  
Sallaud, C., Gay, C., Larnande, P., Bes, M., Piffanel, P., Piegou, B., Droc, G., Regad, F., Bourgeois, E., Meynard, D., Perin, C., Chesquiere, A., Delgeny, M., Glaszmann, J.C. and Guiderdoni, B.  
High throughput T-DNA insertion mutagenesis in rice: A first step towards in silico reverse genetics  
Plant J. (2004) In press  
Contact: Guiderdoni  
UMR PIA Biocrop program  
CIRAD  
TA 40/03 ave Agropolis 34398 Montpellier cedex 5 FRANCE  
Tel: 33467615629  
Fax: 33467615605  
Email: emmanuel.guiderdoni@cirad.fr  
Class: TDNA tagged.  
Location/Qualifiers  
1..68  
/organism="Oryza sativa (japonica cultivar-group)"  
/mol\_type="genomic DNA"  
/cultivar="Nipponbare"  
/db\_xref="taxon:39947"  
/clone\_lib="Flanking Sequence Tag of Oryza sativa T-DNA insertion lines"  
/note="PCR was performed on DNA of primary transformants of Oryza sativa plants. The DNA fragment(s) resulting of PCR were directly sequenced from the left border to determine the genomic sequence flanking the insertion. T-DNA derived sequences were removed. Information to order the corresponding mutant line and a link to a database providing a graphical display is available from June 2004 at <http://genoplante-info.infobiogen.fr/oryzatagline/>. This sequence has been generated in the framework of the French plant genomics program Genoplante (<http://www.genoplante.org> and <http://genoplante-info.infobiogen.fr>)."

ORIGIN  
Query Match 61.8%; Score 13.6; DB 9; Length 68;  
Best Local Similarity 80.0%; Pred. No. 3.2e+04;  
Matches 16; Conservative 0; Mismatches 4; Indels 0; Gaps 0;

QY 1 TGACTGTGACGTCGAGAT 20  
DB 45 TAACTTGAACGTCGACAT 64

RESULT 15  
CL524162 68 bp DNA linear GSS 02-APR-2004  
LOCUS CL524162  
DEFINITION SAO6G04 Flanking Sequence Tag of Oryza sativa T-DNA insertion lines  
Oryza sativa (japonica cultivar-group) genomic, genomic survey  
sequence.  
ACCESSION CL524162  
VERSION CL524162.1 GI:46150962  
KEYWORDS GSS.  
SOURCE Oryza sativa (japonica cultivar-group)  
Oryza sativa (japonica cultivar-group)  
Eukaryota; Viridiplantae; Streptophyta; Tracheophyta; Eukaryota; Viridiplantae; Magnoliophyta; Liliopsida; Poales; Poaceae; Ehrhartoideae; Oryzaceae; Oryza. 1 (bases 1 to 68)  
Sallaud, C., Gay, C., Larnande, P., Bes, M., Piffanel, P., Piegou, B., Droc, G., Regad, F., Bourgeois, E., Meynard, D., Perin, C., Chesquiere, A., Delgeny, M., Glaszmann, J.C. and Guiderdoni, B.  
High throughput T-DNA insertion mutagenesis in rice: A first step towards in silico reverse genetics  
Plant J. (2004) In press  
Contact: Guiderdoni  
UMR PIA Biocrop program  
CIRAD  
TA 40/03 ave Agropolis 34398 Montpellier cedex 5 FRANCE

Tel: 33467615629  
Fax: 33467615605  
Email: emmanuel.guiderdoni@cirad.fr  
Class: TDNA tagged  
Location/Qualifiers

FEATURES  
source

1..68  
/organism="Oryza sativa (japonica cultivar-group)"  
/mol\_type="genomic DNA"  
/culivar="Nipponbare"  
/db\_xref="taxon:39947"  
/clone\_lib="Flanking Sequence Tag of Oryza sativa T-DNA insertion lines"  
/note="PCR was performed on DNA of primary transformants of Oryza sativa plants. The DNA fragment(s) resulting of PCR were directly sequenced from the left border to determine the genomic sequence flanking the insertion. T-DNA derived sequences were removed. Information to order the corresponding mutant line and a link to a database providing a graphical display is available from June 2004 at <http://genoplante-info.inbio.gen.fr/oryzatagline/>. This sequence has been generated in the framework of the French plant genomics program Genoplante (<http://www.genoplante.org> and <http://genoplante-info.inbio.gen.fr>)."

## ORIGIN

Query Match 61.8%; Score 13.6; DB 9; Length 68;  
Best Local Similarity 80.0%; Pred. No. 3.2e+04;  
Matches 16; Conservative 0; Mismatches 4; Indels 0; Gaps 0;

QY 1 TGACTGTGAACGTTGCAGAT 20  
|||||  
45 TAACTTTGAACGTCGCACAT 64

RESULT 16  
LOCUS AA779179 40 bp mRNA linear EST 05-FEB-1998  
DEFINITION 243607.g1 Soares fetal liver spleen INFIS S1 Homo sapiens cDNA  
close IMAGE:453036 3', similar to TR:013537-013537 MER37  
TRANPOSABLE ELEMENT, COMPLETE CONSENSUS SEQUENCE. ;contains  
MER37.t2 MER37 repetitive element ;, mRNA sequence.

ACCESSION AA779179  
VERSION AA779179.1 GI:2838510  
KEYWORDS EST.  
SOURCE Homo sapiens (human)  
ORGANISM Homo sapiens

REFERENCE Mammalia; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Eukaryota; Eutheria; Primates; Catarrhini; Homnidae; Homo.  
1 (bases 1 to 40)  
Hillier, L., Allen, M., Bowles, L., Dubuque, T., Geisels, G., Jost, S., Krizman, D., Kucaba, T., Lacy, M., Le, N., Lennon, G., Marra, M., Martin, U., Moore, B., Schellenberg, K., Steptoe, M., Tan, F., Theising, B., White, Y., Wylie, T., Waterston, R. and Wilson, R.

WashU-NCI human EST Project  
Unpublished (1997)  
Contact: Wilson RK  
Washington University School of Medicine  
444 Forest Park Parkway, Box 8501, St. Louis, MO 63108  
Tel: 314 286 1800  
Fax: 314 286 1810  
Email: [est@watson.wustl.edu](mailto:est@watson.wustl.edu)

This clone is available royalty-free through LBNL; contact the IMAGE Consortium ([info@image.lbl.gov](mailto:info@image.lbl.gov)) for further information.  
Trace considered overall poor quality  
Possible reversed clone: similarity on wrong strand  
Seq primer: -40ml3 fwd. ET from Amersham  
High quality sequence stop: 1.  
Location/Qualifiers

FEATURES  
source  
1..40  
/organism="Homo sapiens"  
/mol\_type="mRNA"  
/db\_xref="GDB:1389392"

## ORIGIN

Query Match 60.0%; Score 13.2; DB 1; Length 40;  
Best Local Similarity 83.3%; Pred. No. 4.7e+04;  
Matches 15; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

QY 4 CTGTGAACGTTGCAGATG 21  
|||||  
7 CTGTGAAGTCTTAGATG 24

RESULT 17  
LOCUS BH866537/c 48 bp DNA linear GSS 05-AUG-2002  
DEFINITION SALK 101461 Arabidopsis thaliana TDNA insertion lines Arabidopsis thaliana genomic clone SALK\_101461, genomic survey sequence.

ACCESSION BH866537  
VERSION BH866537.1 GI:22102435  
KEYWORDS GSS.  
SOURCE Arabidopsis thaliana (thale cress)  
ORGANISM Arabidopsis thaliana

Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta; Spermatophyta; Magnoliophyta; eudicotyledons; core eudicots; rosids; eurosid II; Brassicales; Brassicaceae; Arabidopsi.

1 (bases 1 to 48)  
Alonso, J.M., Leisner, T.J., Barajas, P., Chen, H., Cheuk, R., Gadrinab, C., Jeske, A., Karnes, M., Kim, C.J., Parker, H., Prednis, L., Shim, P., Zimmerman, J. and Ecker, J.R.

A sequence-indexed library of Insertion Mutations in the Arabidopsis Genome  
Unpublished (2001)  
Contact: Joseph R. Ecker  
Salk Institute Genomic Analysis Laboratory (SIGAL)  
The Salk Institute for Biological Studies  
10010 N. Torrey Pines Road, La Jolla, CA 92037, USA  
Tel: 858 453 4100 x1752  
Fax: 858 558 6379  
Email: [ecker@salk.edu](mailto:ecker@salk.edu)

This is single pass sequence recovered from the left border of TDNA.  
Class: TDNA tagged.

FEATURES  
source

1..48  
Location/Qualifiers  
/organism="Arabidopsis thaliana"  
/mol\_type="genomic DNA"  
/ecotype="Col-0"  
/db\_xref="taxon:3702"  
/clone="SALK\_101461"  
/clone\_lib="Arabidopsis thaliana TDNA insertion lines"  
/note="PCR was performed on Arabidopsis thaliana lines each of which contains one or more TDNA insertion elements. The resultant fragment for each line was directly sequenced to determine the genomic sequence at the site of insertion. Details of the protocols used can be found at [http://signal.salk.edu/tdna\\_protocols.html](http://signal.salk.edu/tdna_protocols.html)"

## ORIGIN

	Query Match	60.0%	Score 13.2;	DB 8;	Length 48;			
	Best Local Similarity	83.3%	Pred. No. 4.8e+04;					
Matches	15; Conservative	0;	Mismatches	3;	Indels	0;	Gaps	0;
OY	4 CTGTGAACGTTGCAGATG 21                     44 CTATGACACGTTTGATGATG 27							
RESULT 18	AUI06360	50 bp	mRNA	linear	EST 28-JAN-2004			
LOCUS	AUI06360 Sugano Homo sapiens CDNA library Homo sapiens CDNA clone							
DEFINITION	HEB16401, mRNA sequence.							
ACCESSION	AUI06360							
VERSION	AUI06360.1 GI:13555881							
KEYWORDS	EST.							
SOURCE	Homo sapiens (human)							
ORGANISM	Homo sapiens							
REFERENCE	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo. 1 (bases 1 to 50) Suzuki,Y., Taira,H., Teunoda,T., Mizushima-Sugano,J., Sese,J., Hata,H., Ota,T., Isogai,T., Tanaka,T., Morishita,S., Okubo,K., Sakaki,Y., Nakamura,Y., Suyama,A. and Sugano,S. Diverse transcriptional initiation revealed by fine, large-scale mapping of mRNA start sites EMBO Rep. 2 (5), 388-393 (2001)							
TITLE	JOURNAL MEDLINE PUBMED 21270072 11375929							
COMMENT	Contact: Yutaka Suzuki Department of Virology Institute of Medical Science, University of Tokyo 4-6-1, Shirokanedai, Minatoku, Tokyo 108-8639, Japan Email: yusuzuki@ims.u-tokyo.ac.jp Suzuki,Y., Yoshitomo-Nakagawa,K., Maruyama,K., Suyama,A. and Sugano,S. Construction and characterization of a full length-enriched and a 5'-end-enriched cDNA library. Gene 200 (1-2), 149-156 (1997).							
FEATURES	Source 1..50 Location/Qualifiers /organism="Homo sapiens" /mol_type="mRNA" /db_xref="taxon:9606" /clone="HEB16401" /clone_lib="Sugano Homo sapiens CDNA library"							
ORIGIN	Query Match 60.0%; Score 13.2; DB 1; Length 50; Best Local Similarity 83.3%; Pred. No. 4.8e+04; Matches 15; Conservative 0; Mismatches 3; Indels 0; Gaps 0;							
OY	2 GACTGTGAACGTTGCAGA 19                     Db 37 GACCGTGAACGTCACGACA 20							
BX987369	56 bp DNA linear GSS 05-JUN-2004							
LOCUS	Reverse strand read from insect in 3'HPT insertion targeting and chromosome engineering clone MHP202g23, genomic survey sequence.							
ACCESSION	BX987369							
VERSION	BX987369.1 GI:49718827							
KEYWORDS	GSS; genome survey sequence; MICR.							
SOURCE	Mus musculus (house mouse)							
ORGANISM	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus. 1 (bases 1 to 56) Adams,D.J., Biggs,P.J., Cox,A.V., Davies,R.M., van der Weyden,L., Jonkers,J., Smith,C., Plumb,R.W., Taylor,R.G., Nishijima,I., Yu,Y.,							
REFERENCE								
AUTHORS								

TITLE	Rogers,J. and Bradley,A.
JOURNAL	Direct Submission
CBIO ID	Submitted (20-FEB-2004) Sanger Centre, Hinxton, Cambridgeshire, UK. http://www.sanger.ac.uk/MICR
FEATURES	Location/Qualifiers <pre>1..56     /organism="Mus musculus"       /mol_type="genomic DNA"         /db_xref="taxon:10090"           /clone="MMP202g23"             /clone_id="MHP"</pre>
ORIGIN	
Query Match	60.0% Score 13.2; DB 9; Length 56;
Best Local Similarity	83.3%; Pred.No.4.9e+04;
Matches	15; Conservative 0; Mismatches 3; Indels 0; Gaps 0;
OY	2 GACTGTGACCTTCGAGA 19                    30 GAGTGTGACCCTTGCGA 47
RESULT 20	
LOCUS	AG218726 81 bp DNA linear GSS 03-SEP-2002
DEFINITION	Drosophila melanogaster DNA, clone:NP0751-3-1, flanking P[Gamb]
ACCESSION	AG218726
VERSION	AG218726.1 GI:22765876
KEYWORDS	GSS.
SOURCE	Drosophila melanogaster (fruit fly)
ORGANISM	Drosophila melanogaster. Eukaryote; Metazoa; Arthropoda; Hexapoda; Insecta; Pterygota; Neoptera; Endopterygota; Diptera; Brachycera; Muscomorpha; Epitheroidea; Drosophilidae; Drosophila.
REFERENCE	1 Hayashi,S., Ito,K., Sado,Y., Taniguchi,M., Akimoro,A., Takeuchi,H., Asagaki,T., Matsuzaki,F., Nakagoshi,H., Tanimura,T., Ueda,R., Uemura,T., Yoshihara,W. and Goto,S. GEDB, a database compiling expression patterns and molecular localizations of a collection of Gal4 enhancer traps Genesis (2002) In press 2 (bases 1 to 81) Hayashi,S.
JOURNAL	Direct Submission
REFERENCE	Submitted (27-AUG-2002) Shigeo Hayashi, RIKEN Center for Developmental Biology, Laboratory for Morphogenetic Signaling; Chuo-Ku, Minatojima-minamimachi 2-2-3, Kobe, Hyogo 650-0047, Japan (E-mail:hayashi@cd.riken.go.jp; Tel:81-78-301-3184, Fax:81-78-301-3183)
COMMENT	This clone was isolated from genomic DNA flanking an insertion of the P element vector P[Gamb] of a Drosophila strain. location/Qualifiers
FEATURES	1..81 /organism="Drosophila melanogaster" /mol_type="genomic DNA" /strain="NP0751" /db_xref="taxon:7227" /chromosome="1" /map="10P9" /clone="NP0751-3-1" /note="flanking P[Gamb] transposon insertion"
ORIGIN	
Query Match	60.0% Score 13.2; DB 9; Length 81;
Best Local Similarity	83.3%; Pred.No.5.3e+04;
Matches	15; Conservative 0; Mismatches 3; Indels 0; Gaps 0;
OY	2 GACTGTGACCTTCGAGA 19                    46 GAGAGTAGACCTTTGACA 63
Db	

RESULT 21	CN588245	96 bp	mRNA	linear	EST 05-MAY-2004
LOCUS	CN588245				
DEFINITION	TT500002867 Normalized large Tetrahymena thermophila cDNA, mRNA sequence.				
ACCESSION	CN588245				
VERSION	CN588245.1	GI:47040047			
KEYWORDS	EST.				
SOURCE	Tetrahymena thermophila				
ORGANISM	Tetrahymena thermophila				
REFERENCE	Eukaryota; Alveolata; Ciliophora; Oligohymenophorea; Hymenostomatida; Tetrahymenina; Tetrahymena.				
AUTHORS	1 (bases 1 to 96)				
TITLE	Garg,J and Pearlman,R.B.				
JOURNAL	PeptidPub ( <a href="http://amebidia.bcm.umontreal.ca/public/peptdb/agrm.php">http://amebidia.bcm.umontreal.ca/public/peptdb/agrm.php</a> )				
COMMENT	Unpublished (2004)				
CONTACT	Contact: Peptdb				
DEPARTMENT	Departement de Biochimie, Universite de Montreal				
EMAIL	Email: peptdb-curator@bch.umontreal.ca				
PLATE	Plate: 191.				
FEATURES	Location/Qualifiers				
SOURCE	1..96				
ORGANISM	/organism="Tetrahymena thermophila"				
MOL TYPE	/mol_type="mRNA"				
DB XREF	/db_xref="taxon:5911"				
CLONE LIB	/clone_lib="Normalized large"				
ORIGIN					
Query Match	60.0%;	Score 13.2;	DB 7;	Length 96;	
Best Local Similarity	83.3%;	Pred. NO.5.4e+04;			
Matches	15;	Conservative 0;	Mismatches 3;	Indels 0;	Gaps 0;
QY	4 CTGTGAACGTTGAGATG 21				
Db	60 CTTTGACGGTAGAGATG 77				
RESULT 22	AL951982	99 bp	DNA	linear	GSS 02-APR-2004
LOCUS	AL951982				
DEFINITION	Arabidopsis thaliana T-DNA flanking sequence GK-340B03-016161, genomic survey sequence.				
ACCESSION	AL951982				
VERSION	AL951982.1	GI:24408604			
KEYWORDS	GSS.				
SOURCE	Arabidopsis thaliana (thale cress)				
ORGANISM	Arabidopsis thaliana				
REFERENCE	Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta; Spermatophyta; Magnoliophyta; eudicotyledons; core eudicots; rosids; eurosid II; Brassicales; Brassicaceae; Arabidopsis.				
AUTHORS	1				
TITLE	Li,Y., Rosso,M.G., Strizhov,N., Viehoever,P. and Weisshaar,B.				
JOURNAL	GABI-Kat SimpleSearch: a flanking sequence tag (FST) database for				
MEDLINE	thaliana				
PUBMED	Bioinformatics 19 (11), 1441-1442 (2003)				
REFERENCE	2				
AUTHORS	Rosso,M.G., Li,Y., Strizhov,N., Reiss,B., Dekker,K. and				
TITLE	Weisshaar,B.				
JOURNAL	An Arabidopsis thaliana T-DNA mutagenized population (GABI-Kat) for				
MEDLINE	flanking sequence tag-based reverse genetics				
PUBMED	Plant Mol. Biol. 53 (1-2), 247-259 (2003)				
REFERENCE	3				
AUTHORS	Strizhov,N., Li,Y., Rosso,M.G., Viehoever,P., Dekker,K.A. and				
TITLE	Weisshaar,B.				
JOURNAL	High-throughput generation of sequence indexes from T-DNA				
MEDLINE	mutagenized Arabidopsis thaliana lines				
PUBMED	Biotechniques 35 (6), 1164-1168 (2003)				
REFERENCE	4				
AUTHORS	Strizhov,N., Li,Y., Rosso,M.G., Viehoever,P., Dekker,K.A. and				
TITLE	Weisshaar,B.				
JOURNAL	High-throughput generation of sequence indexes from T-DNA				
MEDLINE	mutagenized Arabidopsis thaliana lines				
PUBMED	Biotechniques 35 (6), 1164-1168 (2003)				
REFERENCE	5				
AUTHORS	Strizhov,N., Li,Y., Rosso,M.G., Viehoever,P., Dekker,K.A. and				
TITLE	Weisshaar,B.				
JOURNAL	High-throughput generation of sequence indexes from T-DNA				
MEDLINE	mutagenized Arabidopsis thaliana lines				
PUBMED	Biotechniques 35 (6), 1164-1168 (2003)				
REFERENCE	6				
AUTHORS	Strizhov,N., Li,Y., Rosso,M.G., Viehoever,P., Dekker,K.A. and				
TITLE	Weisshaar,B.				
JOURNAL	High-throughput generation of sequence indexes from T-DNA				
MEDLINE	mutagenized Arabidopsis thaliana lines				
PUBMED	Biotechniques 35 (6), 1164-1168 (2003)				
REFERENCE	7				
AUTHORS	Strizhov,N., Li,Y., Rosso,M.G., Viehoever,P., Dekker,K.A. and				
TITLE	Weisshaar,B.				
JOURNAL	High-throughput generation of sequence indexes from T-DNA				
MEDLINE	mutagenized Arabidopsis thaliana lines				
PUBMED	Biotechniques 35 (6), 1164-1168 (2003)				
REFERENCE	8				
AUTHORS	Strizhov,N., Li,Y., Rosso,M.G., Viehoever,P., Dekker,K.A. and				
TITLE	Weisshaar,B.				
JOURNAL	High-throughput generation of sequence indexes from T-DNA				
MEDLINE	mutagenized Arabidopsis thaliana lines				
PUBMED	Biotechniques 35 (6), 1164-1168 (2003)				
REFERENCE	9				
AUTHORS	Strizhov,N., Li,Y., Rosso,M.G., Viehoever,P., Dekker,K.A. and				
TITLE	Weisshaar,B.				
JOURNAL	High-throughput generation of sequence indexes from T-DNA				
MEDLINE	mutagenized Arabidopsis thaliana lines				
PUBMED	Biotechniques 35 (6),				

REFERENCE	4 (bases 1 to 99)
AUTHORS	Strizhov,N., Rosso,M.G., Li,Y. and Weisshaar,B.
TITLE	Direct Submission
JOURNAL	Submitted (31-MAR-2004) Weisshaar B., Max-Planck-Institut fuer Zuechtungsforchung, Carl-von-Linne-Weg 10, Koeln, 50829, Germany
COMMENT	This sequence has been recovered from the left border of the T-DNA. It indicates an insertion within the locus defined by BAC clone T30A10. Details on the protocols used for generation of the sequence are described in References 1-3. The sequences are generated at the MPI for Plant Breeding Research in the context of the GABI-Kat project. GABI-Kat is part of the German Plant Genomics program designated 'GABI'. Information on line availability can be found at: <a href="http://www.mpiz-koeln.mpg.de/GABI-Kat/">http://www.mpiz-koeln.mpg.de/GABI-Kat/</a> .
FEATURES	location/Qualifiers
SOURCE	1..99
	/organism="Arabidopsis thaliana"
	/mol_type="genomic DNA"
	/strain="Columbia 0"
	/db_xref="taxon:3702"
	/clone="GK-340B03-016161"
	/clone_lib="Arabidopsis thaliana T-DNA insertion lines"
	/ecotype="Col-0"
	/note="PCR was performed on DNA from Arabidopsis thaliana plants (T1) which were transformed with the T-DNA from vector PAC161 (Genbank accession number: AF537514). The lines contain one or more T-DNA insertions. The DNA fragment(s) resulting from the PCR were directly sequenced to determine the genomic sequence flanking the insertion. T-DNA derived sequences were removed."
ORIGIN	
Query Match	60.0%; Score 13.2; DB 9; Length 99;
Best Local Similarity	83.3%; Pred. NO.5.5e+04;
Matches	15; Conservative 0; Mismatches 3; Indels 0; Gaps 0;
QY	5 TGTGACGTTGAGATGA 22                 47 TGTAAAGTTCAATATGA 30
Db	
RESULT 23	
AZ390824/c	100 bp DNA linear GSS 03-OCT-2000
LOCUS	IM0152P20F Mouse 10kb plasmid U0GC1M library Mus musculus genomic
DEFINITION	clone U0GC1M0152P20 F, genomic survey sequence.
ACCESSION	AZ390824
VERSION	AZ390824.1 GI:10505867
KEYWORDS	GSS.
SOURCE	Mus musculus (house mouse)
ORGANISM	Mus musculus
	Eukaryota; Metazoa; Chordata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Rodentia; Scurionath; Muridae; Murinae; Mus.
REFERENCE	1 (bases 1 to 100)
AUTHORS	Dunn,D., Aoyagi,A., Barber,M., Beacorn,T., Duval,B., Hamil,C., Isaiam,H., Longacre,S., Mahmood,M., Meenen,E., Pedersen,T., Reilly,M., Rose,M., Rose,R., Stokes,R., Tingey,A., von Niederhausern,A. and Wright,D.,Weiss,R.
	Mouse whole genome scaffolding with paired end reads from 10kb plasmid insets
TITLE	Unpublished (2000)
JOURNAL	Contact: Robert B. Weiss
COMMENT	University of Utah Genome Center Rm. 308, Biomedical Polymers Research Bldg., 20 S. 2030 E., SDC, UT 84112, USA Tel: 801 585 5606 Fax: 801 585 7177 Email: ddunn@genetics.utah.edu Insert Length: 10000 Std Error: 0.00 Plate: 0152 row: P column: 20 Seq primer: CGTTGTAACGACGCGCAGT Class: plasmid ends High quality sequence stop: 100.

FEATURES  
source  
Location/Qualifiers  
1. .100  
/organism="Mus musculus"  
/mol\_type="genomic DNA"  
/strain="C57BL/6J"  
/db\_xref="taxon:10090"  
/clone="UUCG1M0152P20"  
/sex="Male"  
/lab\_host="E. Coli strain XL10-Gold, T1-resistant, F-"  
/clone\_lib="Mouse 10kb plasmid UUCG1M library"  
/note="Vector: PMD42nv; Purified genomic DNA from M. musculus C57BL/6J (male) was obtained from the Jackson Laboratory Mouse DNA Resource  
(http://www.jax.org/resources/documents/dnares/). The DNA was hydrodynamically sheared by repeated passage through a 0.005 inch orifice at constant velocity. The sheared DNA was blunt end-repaired with T4 DNA polymerase and T4 polynucleotide kinase. Adaptor oligonucleotides were ligated to the blunt ends in high molar excess. The adaptor DNA was purified and size-selected for a 9.5 to 10.5 kb range using preparative agarose gel electrophoresis. Vector DNA was prepared from a derivative of pMD42 (gi|473214|gb|AF12072.1), a copy-number inducible derivative of plasmid R1. The vector was ligated with adaptors complementary to the insert adaptors and purified. The sheared, adaptor mouse DNA was annealed to adaptor vector DNA, and transformed into chemically-competent E. coli XL10-Gold (Stratagene) cells and selected for ampicillin resistance."

ORIGIN  
Query Match 60.0%; Score 13.2; DB 8; Length 100;  
Best Local Similarity 83.3%; Pred. No. 5.5e+04;  
Matches 15; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

QY 1 TGAAGTGTGAACGTTGCAG 18  
|||||  
Db 38 TGAAGTGTGAACGTTGCAG 21

RESULT 24  
AAB36207 61 bp mRNA linear EST 25-MAR-1998  
LOCUS od22h05.s1 NCI CGAP GCBI Homo sapiens CDNA clone IMAGE:1368729  
DEFINITION similar to TR:092931 092931.3-HYDROXYISOBUTYRYL-COENZYME A  
HYDROLASE.; mRNA sequence.  
ACCESSION AAB36207 GI:2910526  
VERSION AAB36207.1  
KEYWORDS EST.  
SOURCE Homo sapiens (human)  
ORGANISM Homo sapiens  
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;  
Mammalia; Eutheria; Primates; Catarrhini; Homnidae; Homo.  
REFERENCE 1 (bases 1 to 61)  
AUTHORS NCI-CGAP http://www.ncbi.nlm.nih.gov/ncicgap.  
TITLE National Cancer Institute, Cancer Genome Anatomy Project (CGAP),  
Tumor Gene Index  
JOURNAL Unpublished (1997)  
COMMENT Contact: Robert Strausberg, Ph.D.  
Email: cgaabs-remail.nih.gov  
Tissue Procurement: Louis M. Staudt, M.D., Ph.D., David Allman,  
Ph.D., Gerald Marti, M.D.  
CDNA Library Preparation: M. Bento Soares, Ph.D., M. Fatima  
Bonaldo, Ph.D.  
CDNA Library Arrayed by: Greg Lennon, Ph.D.  
DNA Sequencing by: Washington University Genome Sequencing Center  
Clone distribution: NCI-CGAP clone distribution information can be  
found through the I.M.A.G.E. Consortium/LLNL at:  
www-bio.llnl.gov/bdrp/image/image.html

Trace considered overall poor quality  
Insert Length: 872 Std Error: 0.00  
Seq primer: -40m13 fwd. ET from Amer sham

FEATURES  
source  
High quality sequence stop: 1.  
Location/Qualifiers  
1. .61  
/organism="Homo sapiens"  
/mol\_type="mRNA"  
/db\_xref="taxon:9606"  
/db\_xref="IMAGE:1368729"  
/clone="IMAGE:1368729"  
/tissue\_type="germinal center B cell"  
/lab\_host="DH10B"  
/clone\_lib="NCI CGAP GCBI"  
/note="Vector: pT73D-Pac (pharmacia) with a modified  
polylinker; Site 1: Not I; Site 2: Eco RI; 1st strand CDNA  
was prepared from human tonsillar cells enriched for  
germinal center B cells by flow sorting (CD20+, IgD-),  
provided by Dr. Louis M. Staudt (NCI), Dr. David Allman  
(NCI) and Dr. Gerald Marti (CBER). CDNA synthesis was  
primed with a Not I - oligo(dT) primer  
[5'-TGTTACCAATCTGAAGTGGAGCGCGCCCTCATTTTCTTTT-3'  
]. Double-stranded cDNA was ligated to Eco RI adaptors  
(pharmacia), digested with Not I and cloned into the Not I  
and Eco RI sites of the modified pT73 vector. Library  
went through one round of normalization, and was  
constructed by Bento Soares and M. Fatima Bonaldo."

ORIGIN  
Query Match 59.1%; Score 13; DB 1; Length 61;  
Best Local Similarity 76.2%; Pred. No. 6.4e+04;  
Matches 16; Conservative 0; Mismatches 5; Indels 0; Gaps 0;

QY 1 TGAAGTGTGAACGTTGCAGATG 21  
|||||  
Db 1 TGAAGTGTGAATTTAGAGATG 21

RESULT 25  
BH127397 62 bp DNA linear GSS 23-UTL-2001  
LOCUS G-1c17.x Maize Random Small-Insert Genomic Library Zea mays genomic  
DEFINITION clone G-1c17 both, genomic survey sequence.  
ACCESSION BH127397 GI:14995229  
VERSION BH127397.1  
KEYWORDS GSS.  
SOURCE Zea mays  
ORGANISM Zea mays  
Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;  
Spermatophyta; Magnoliophyta; Liliopsida; Poales; Poaceae; PACCAD  
Clade; Panicoideae; Andropogoneae; Zea.  
REFERENCE 1 (bases 1 to 62)  
AUTHORS Meyers, B.C., Tingey, S.V. and Morgante, M.  
TITLE Abundance, distribution and transcriptional activity of repetitive  
elements in the maize genome  
JOURNAL Genome Res. 11 (10), 1660-1676 (2001)  
MEDLINE 21475670  
PUBMED 11591643  
COMMENT Contact: Morgante M  
Suite 200  
Dupont Genomics  
PO Box 6104, Newark, DE 19714-6104, USA  
Tel: 302 631 2638  
Fax: 302 631 2607  
Email: Michele.morgante@usa.dupont.com  
Sequences were trimmed to include only high quality bases; forward  
and reverse reads were assembled when significant overlaps were  
detected.  
Seq primer: M3reverse  
Clas: Shotgun  
Location/Qualifiers  
1. .62  
/organism="Zea mays"  
/mol\_type="genomic DNA"  
/strain="B73"  
/db\_xref="taxon:4577"  
/clone="G-1c17"

/sex="hermaphrodite"  
/issue\_type="leaf"  
/cell\_type="Young leaf"  
/dev\_stage="seedling"  
/clone\_lib="Maize Random Small-insert Genomic Library"  
/note="Vector: PCR-Script; Total genomic DNA was  
nabulized; ends were polished with Pfu polymerase and the  
fragments cloned into PCR-Script."

## ORIGIN

Query Match 59.1%; Score 13; DB 8; Length 62;  
Best Local Similarity 76.2%; Pred. No. 6.5e+04;  
Matches 16; Conservative 0; Mismatches 5; Indels 0; Gaps 0;

QY 2 GACTGTGAACGTTCCGAGATGA 22  
|||||  
26 GAATGAGACCGATGAGATGA 46

RESULT 26 68 bp mRNA linear EST 29-OCT-1996  
AA104737 mos0c09.r1 Life Tech mouse embryo 10 5dpc 10665016 Mus musculus  
LOCUS CDNA clone IMAGE:557008 5', mRNA sequence.  
DEFINITION  
ACCESSION AA104737 GI:1650951  
VERSION  
KEYWORDS EST.  
SOURCE Mus musculus (house mouse)  
ORGANISM

## REFERENCE

Aukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;  
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.  
1 (bases 1 to 68)  
Marra, M., Hillier, L., Allen, M., Bowles, M., Dietrich, N., Dubuque, T.,  
Geisel, S., Kucaba, T., Lacey, M., Le, M., Martin, J., Morris, M.,  
Schellenberg, K., Steptoe, M., Tan, F., Underwood, K., Moore, B.,  
Theising, B., Wylie, T., Lennon, G., Soares, B., Wilson, R. and  
Waterson, R.

Unpublished (1996)  
Contact: Marra M/Mouse EST Project  
WashU-HMNI Mouse EST Project  
Washington University School of Medicine  
4444 Forest Park Parkway, Box 8501, St. Louis, MO 63108  
Tel: 314 286 1800  
Fax: 314 286 1810  
Email: mouseest@watson.wustl.edu

This clone is available royalty-free through LNL; contact the  
IMAGE Consortium (info@image.lnl.gov) for further information.  
MGI:337800  
Seq primer: -28M13 rev1 from Amerham  
High quality sequence stop: 60.

## FEATURES

source

1..68  
/organism="Mus musculus"  
/mol\_type="mRNA"  
/strain="C57BL/6J"  
/db\_xref="taxon:10090"  
/clone\_image="IMAGE:557008"  
/issue\_type="embryo"  
/dev\_stage="10.5dpc embryos"  
/lab\_host="DH10B"  
/clone\_lib="Life Tech mouse embryo 10 5dpc 10665016"  
/note="Organ: whole embryo; Vector: PCMV-SPORT2; Site 1:  
SalI; Site 2: NotI; Cloned unidirectionally. Primer:  
Oligo dt. 10.5dpc embryos. PCMV-SPORT2 vector."

## ORIGIN

Query Match 59.1%; Score 13; DB 1; Length 68;  
Best Local Similarity 76.2%; Pred. No. 6.5e+04;  
Matches 16; Conservative 0; Mismatches 5; Indels 0; Gaps 0;

QY 1 TGACTGTGAACGTTCCGAGATG 21  
|||||

Db 68 TGACTGTGAACGTTCCGAGG 48

RESULT 27 70 bp mRNA linear EST 15-JUL-2003  
CD936672  
LOCUS RAE\_81 GeneTag1 Zea mays cDNA, mRNA sequence.  
DEFINITION  
ACCESSION CD936672 GI:32877770  
VERSION  
KEYWORDS EST.  
SOURCE Zea mays  
ORGANISM

Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;  
Spermatophyta; Magnoliophyta; Liliopsida; Poales; Poaceae; PACCAD  
clade; Panicoideae; Andropogoneae; Zea.  
1 (bases 1 to 70)  
Genoplante.  
Genoplante, a major partnership french program in plant genome  
unpublished (2003)  
Contact: Genoplante  
Genoplante  
93, rue Henri Rochefort 91025 EVRY CEDEX France  
Tel: 33 1 69 47 54 00  
Fax: 33 1 69 47 54 10  
This sequence has been generated in the framework of the french  
plant genomes programme 'Genoplante' (<http://www.genoplante.com>  
and <http://genoplante-info.infobiogen.fr>).

## FEATURES

source

1..70  
/organism="Zea mays"  
/mol\_type="mRNA"  
/cultivar="mixture"  
/db\_xref="taxon:4577"  
/clone\_lib="GeneTag1"

## ORIGIN

Query Match 59.1%; Score 13; DB 6; Length 70;  
Best Local Similarity 76.2%; Pred. No. 6.5e+04;  
Matches 16; Conservative 0; Mismatches 5; Indels 0; Gaps 0;

QY 2 GACTGTGAACGTTCCGAGATGA 22  
|||||  
32 GACTGAGACGATTCGAGAGA 52

RESULT 28 71 bp DNA linear GSS 14-NOV-2002  
BZ357971  
LOCUS SALK\_131667.32.45.x Arabidopsis thaliana TDNA insertion line  
DEFINITION  
Arabidopsis thaliana genomic clone SALK\_131667.32.45.x, genomic  
survey sequence.  
ACCESSION BZ357971  
VERSION BZ357971  
KEYWORDS GSS.

Arabidopsis thaliana (thale cress)  
Arabidopsis thaliana  
Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;  
Spermatophyta; Magnoliophyta; eudicotyledons; core eudicots;  
rosids; eurosids II; Brassicales; Brassicaceae; Arabidopsis.

1 (bases 1 to 71)  
Alonso, J.M., Leisse, T.J., Barajas, P., Chen, H., Cheuk, R.,  
Gadgil, C., Jeske, A., Karnes, M., Kim, C.J., Parker, H., Prednis, L.,  
Shim, P., Zimmerman, J. and Ecker, J.R.

A sequence-indexed library of insertion Mutations in the  
Arabidopsis Genome  
unpublished (2001)

## JOURNAL

COMMENT

Contact: Joseph R. Ecker  
Salk Institute Genomic Analysis Laboratory (Signal)  
The Salk Institute for Biological Studies  
10010 N. Torrey Pines Road, La Jolla, CA 92037, USA  
Tel: 858 453 4100 x1752  
Fax: 858 558 6379  
Email: [ecker@salk.edu](mailto:ecker@salk.edu)





Oy	1	TTAGCTGTGAACGTTTCGAGAT	21	
Db	55	TGAATGTGAAATTTTGGAGAG	35	
RESULT 31				
LOCUS	BF647619/c			
DEFINITION	NP012E12EC1P1097 Elicited cell culture Medicago truncatula cDNA			
ACCESSION	BF647619			
VERSION	BF647619.1			
KEYWORDS	EST.			
SOURCE	Medicago truncatula (barrel medic)			
ORGANISM	Medicago truncatula			
	Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta; Spermatophyta; Magnoliophyta; eudicotyledons; core eudicots; rosids; eurosids I; Fabales; Fabaceae; Papilionoideae; Trifoliaceae; Medicago.			
REFERENCE	1 (bases 1 to 79)			
AUTHORS	Torres-Jerez,I., Scott,A.D., Harris,A.R., Gonzales,R.A., Bell,C.J., Flores,H.R., Imman,J.T., Weller,J.W. and May,G.D.			
TITLE	Expressed Sequence Tags from the Samuel Roberts Noble Foundation - Center for Medicago Genomics Research			
JOURNAL	Unpublished (2000)			
COMMENT	Contact: Dixon RA Plant Biology Division The Samuel Roberts Noble Foundation 2510 Sam Noble Parkway, Ardmore, OK 73402, USA Tel: 580 221 7302 Fax: 580 221 7380 Email: radixon@noble.org Insert length: 79 Std Error: 0.00 Plate: 012 row: E column: 12 Seq primer: TCACACAGAAACGCTTGAC.			
FEATURES				
source	Location/Qualifiers 1..79 /organism="Medicago truncatula" /mol_type="mRNA" /db_xref="taxon:3880" /clone="NP012E12EC" /tissue_type="Cell cultures derived from root tissues" /dev_stage="Cell suspensions were subcultured every 14 days. Cells were induced six days after subculture" /clone_lib="Elicited cell culture" /note="Vector: Lambda Zap; Cells were induced with yeast cell wall extracts equivalent to 50ug/ml glucose in the final concentration. Samples were taken at 0.5, 1, 12 and 24 hours after induction. Equal amounts of RNA from each time point were pooled and used for mRNA isolation."			
ORIGIN				
Query Match	59.1%;	Score 13;	DB 2;	Length 79;
Best Local Similarity	76.2%;	Pred. No. 6.7e+04;		
Matches	16;	Conservative 0;	Mismatches 5;	Indels 0;
Oy	2	GACTGTGAACGTTTCGAGATGA	22	
Db	62	GAGTTTGAGAGGTTTCAAGTTA	42	
RESULT 32				
LOCUS	B1529631/c			
DEFINITION	1024100D03.x1 C. reinhardtii CC-1690, normalized, lambda zap II			
ACCESSION	B1529631			
VERSION	B1529631.1			
KEYWORDS	EST.			
SOURCE	Chlamydomonas reinhardtii			
ORGANISM	Chlamydomonas reinhardtii Eukaryota; Viridiplantae; Chlorophyta; Chlorophyceae; Volvocales;			

```

REFERENCE
  Chlamydomonadaceae; Chlamydomonas .
  1 (bases 1 to 83)

AUTHORS
  Groseman,A., Chang,C.-W., Davies,J., Harris,E., Hauser,C.,
  Lefebvre,P., McCormick,J.P., Strager,J., Silflow,C. and Stern,D.
  Analyses of the Chlamydomonas reinhardtii Genome: A Model,
  Unicellular System for Analyzing Gene Function and Regulation in
  Vascular Plants. Project: 1024b

JOURNAL
  Unpublished (2001)

COMMENT
  Contact: Charles Hauser
  DCMB Box 91000
  Duke University
  Durham, NC 27708-1000
  Tel: 919 613 8159
  Fax: 919 613 8177
  Email: chauser@duke.edu.

FEATURES
  source
    1..83
    /organism="Chlamydomonas reinhardtii"
    /mol_type="mRNA"
    /strain="CC-1690 wild type mc+ 21gr"
    /db_xref="taxon:3055"
    /clone_lib="C. reinhardtii CC-1690, normalized, Lambda Zap
    II"
    /note="Vector: pBluescript II SK-; Site 1: EcoRI; Site 2:
    XhoI; This library, constructed by John Davies and Jeffrey
    McCormick, combines cDNAs from CC-1690 cells grown to
    mid-log phase in TAP (acetate-containing) medium in the
    light, TAP medium in the dark, HS (minimal) medium in
    ambient levels of CO2 and HS medium bubbled with 5% CO2.
    PolyA mRNA was purified from each sample, pooled and cDNA
    synthesized. The cDNA was directionally cloned into lambda
    Zap II (Stratagene) in the EcoRI (5') and XhoI (3') sites.
    pBluescript II SK- plasmids were excised from the lambda
    Zap clones by superinfection with Exsist (Stratagene)
    phage. The library was normalized using method 4 described
    in Bonaldo et al (1996) Genome Research 6: 791-806."

ORIGIN

Query Match      59.1%; Score 13; DB 4; Length 83;
Best Local Similarity 76.2%; Pred. No. 6.7e+04;
Matches 16; Conservative 0; Mismatches 5; Indels 0; Gaps 0;

QY      2  GACGTGACGCTTCGAGATGA 22
      |||||
Dh      81  GCTTTGACCGTTCTATATGA 61

RESULT 33
LOCUS      B1529632               83 bp      mRNA      linear      EST 29-AUG-2001
DEFINITION 1024100D03.y1 C. reinhardtii CC-1690, normalized, Lambda zap II
ACCESSION  B1529632
VERSION    Chlamydomonas reinhardtii cDNA, mRNA sequence.
KEYWORDS
SOURCE     B1529632.1  GI:15370206
ORGANISM   BSR.
            Chlamydomonas reinhardtii
            Chlamydomonas reinhardtii
            Eukaryota; Viridiplantae; Chlorophyta; Chlorophyceae; Volvocales;
            Chlamydomonadaceae; Chlamydomonas .
            1 (bases 1 to 83)
REFERENCE  1  Groseman,A., Chang,C.-W., Davies,J., Harris,E., Hauser,C.,
            Lefebvre,P., McCormick,J.P., Strager,J., Silflow,C. and Stern,D.
            Analyses of the Chlamydomonas reinhardtii Genome: A Model,
            Unicellular System for Analyzing Gene Function and Regulation in
            Vascular Plants. Project: 1024b
            Unpublished (2001)
JOURNAL    Contact: Charles Hauser
            DCMB Box 91000
            Duke University
            Durham, NC 27708-1000
            Tel: 919 613 8159
            Fax: 919 613 8177
            Email: chauser@duke.edu.
COMMENT

```



REFERENCE 1 clade; Panicoideae; Andropogoneae; Zea.  
 AUTHORS 1 (bases 1 to 91)  
 TITLE Maize genomic sequences found using engineered RescuerMu transposon  
 JOURNAL Unpublished (2001)  
 COMMENT Contact: Walbot V  
 Department of Biological Sciences  
 Stanford University  
 855 California Ave, Palo Alto, CA 94304, USA  
 Tel: 650 723 2227  
 Fax: 650 725 8221  
 Email: walbot@stanford.edu  
 Possible ligation site so sequence was trimmed. Post-ligation  
 sequence submitted separately.  
 Plate: 1119065 row: B column: 04  
 Class: transposon-tagged.

FEATURES  
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 1..91  
 /organism="Zea mays"  
 /mol\_type="genomic DNA"  
 /cultivar="mixed background W23/A188/B73/K55"  
 /db\_xref="taxon:4577"  
 /rissue\_type="leaf"  
 /dev\_stage="adult"  
 /lab\_host="DH10B"  
 /clone\_lib="1119 - RescuerMu Grid AA"  
 /note="Organ: leaf; Vector: RescuerMu (engineered from  
 pBluescript backbone); Site 1: BamHI; Site 2: BglII;  
 RescuerMu is a 4.9 kb, modified maize Mu transposon  
 designed to allow plasmid rescue from total genomic DNA.  
 Mu elements insert preferentially into transcription  
 units. For more information on RescuerMu, go to the web  
 site 'www.zmdb.iastate.edu' and follow the links for  
 'RescuerMu.' Grid AA was grown at UC San Diego in 2002. DNA  
 was extracted from leaf strips, double digested using  
 BamHI and BglII, and ligated to form circular plasmids.  
 DH10B cells were transformed and then screened on LB  
 plates with ampicillin."

## ORIGIN

Query Match 59.1%; Score 13; DB 9; Length 91;  
 Best Local Similarity 76.2%; Pred. No. 6.8e+04;  
 Matches 16; Conservative 0; Mismatches 5; Indels 0; Gaps 0;  
 QY 2 GACTGTGAACGTTGAGATGA 22  
 |||||  
 Db 25 GACCGTCACGTTGAGATGA 45

RESULT 37  
 BU827427 96 bp mRNA linear EST 15-OCT-2002  
 LOCUS BU827427/c  
 DEFINITION Populus apical shoot cDNA library Populus tremula x  
 Populus tremuloides cDNA 5 prime, mRNA sequence.  
 ACCESSION BU827427  
 VERSION BU827427.1 GI:24001151  
 KEYWORDS EST.  
 SOURCE Populus tremula x Populus tremuloides  
 ORGANISM Populus tremuloides  
 Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;  
 Spermatophyta; Magnoliophyta; eudicotyledons; core eudicots;  
 rosids; eurosids I; Malpighiales; Salicaceae; Saliceae; Populus.  
 1 (bases 1 to 96)  
 Unneberg,P., Bhalerao,R.R., Jansson,S. and Steery,F.  
 The poplar tree transcriptome: Analysis of expressed sequence tags  
 from multiple libraries  
 Unpublished (2002)  
 JOURNAL Contact: BHALERAO RUPALI R.  
 Umea Plant Science Center  
 Department of Plant Physiology  
 University of Umea, 901 87 Umea, Sweden  
 Tel: +46 90 786 5279  
 Fax: +46 90 786 6676

FEATURES  
 source  
 1..96  
 /organism="Populus tremula x Populus tremuloides"  
 /mol\_type="mRNA"  
 /db\_xref="taxon:47664"  
 /rissue\_type="apical shoot"  
 /clone\_lib="Populus apical shoot cDNA library"

## ORIGIN

Query Match 59.1%; Score 13; DB 5; Length 96;  
 Best Local Similarity 76.2%; Pred. No. 6.9e+04;  
 Matches 16; Conservative 0; Mismatches 5; Indels 0; Gaps 0;  
 QY 1 TGACTGTGAACGTTGAGATG 21  
 |||||  
 Db 35 TGGTGTGATGATTTGAGAG 15

RESULT 38  
 CL213942 96 bp mRNA linear GSS 30-JUN-2004  
 LOCUS CL213942  
 DEFINITION M017A02 GGTC Gene Trap Library GV05C04 Mus musculus cDNA clone  
 M017A02, mRNA sequence.  
 ACCESSION CL213942  
 VERSION CL213942.1 GI:40730843  
 KEYWORDS GSS.  
 SOURCE Mus musculus (house mouse)  
 ORGANISM Mus musculus  
 Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;  
 Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.  
 1 (bases 1 to 96)  
 Hansen,J., Floss,T., van Sloun,P., Fuchbauer,E.M., Vauti,F.,  
 Arnold,H.H., Schnuten,F., Murst,W., Von Melchner,H. and Ruiz,P.  
 A large-scale, gene-driven mutagenesis approach for the functional  
 analysis of the mouse genome  
 Proc. Natl. Acad. Sci. U.S.A. 100 (17), 9918-9922 (2003)

JOURNAL MEDLINE  
 PUBMED 12904583  
 CONTACT: GGTC  
 German Genetrap Consortium (GGTC)  
 Email: info@genetrapp.de  
 U3betageo gene trap. Sequence tag generated by 5'RACE. Additional  
 sequence information can be found at:  
 'http://genetrapp.gsf.de/project/web\_new/database/result\_clone.html?clone\_id=M017A02'. ES cell line harboring insertion mutation of  
 target gene is available at:  
 'http://genetrapp.gsf.de/project/web\_new/order\_clones/howtoorder.htm'  
 1' Inhouse Sequence Identifier: 06044  
 Class: Gene Trap.

## FEATURES

source  
 1..96  
 /organism="Mus musculus"  
 /mol\_type="mRNA"  
 /strain="129 Sv"  
 /db\_xref="taxon:10090"  
 /clone="M017A02"  
 /sex="Male"  
 /cell\_type="Embryonic stem cell"  
 /cell\_line="ES cells 129S2 (formerly 129/SvPas)"  
 /clone\_lib="GGTC Gene Trap Library GV05C04"  
 /note="Vector: U3betageo"

## ORIGIN

Query Match 59.1%; Score 13; DB 9; Length 96;  
 Best Local Similarity 76.2%; Pred. No. 6.9e+04;  
 Matches 16; Conservative 0; Mismatches 5; Indels 0; Gaps 0;  
 QY 1 TGACTGTGAACGTTGAGATG 21  
 |||||  
 Db 60 TGGCTGTGAACGTCAGAGAG 80

RESULT 39  
 LOCUS BQ587598 51 bp mRNA linear EST 06-DEC-2002  
 DEFINITION E013343-024-010-D02-SP6 MP1Z-ADIS-024-leaf Beta vulgaris cDNA clone  
 ACCESSION BQ587598  
 VERSION BQ587598.1 GI:26117180  
 KEYWORDS EST.  
 SOURCE Beta vulgaris  
 ORGANISM Beta vulgaris  
 Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;  
 Spermatophyta; Magnoliophyta; eudicotyledons; core eudicots;  
 Caryophyllales; Amaranthaceae; Beta.  
 REFERENCE 1 (bases 1 to 51)  
 Herwig, R., Schulz, B., Weishaar, B., Hennig, S., Steinfach, M.,  
 Drungowski, M., Strihl, D., Wruck, W., Menze, A., O'Brien, J., Lehnach, H.  
 and Radelet, U.  
 Construction of a 'unigene' cDNA clone set by oligonucleotide  
 fingerprinting allows access to 25 000 potential sugar beet genes  
 Plant J. 32 (5), 845-857 (2002)  
 JOURNAL MEDLINE 22362189  
 PUBMED 12472698  
 COMMENT Contact: Weishaar B  
 ADIS DNA core facility at MP1Z  
 Max-Planck-Institute for Plant Breeding Research  
 Carl-von-Linne Weg 10, 50829 Koeln, Germany  
 Fax: 00492215062851  
 Email: weishaar@mpiz-koeln.mpg.de  
 Insert Length: 51 Std Error: 0.00  
 Position: 10 row: D column: 02  
 Seq primer: SP6; CATACGATTTCGGACACTATAG.  
 Location/Qualifiers  
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 /organism="Beta vulgaris"  
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 /db\_xref="taxon:161934"  
 /clone="024-010-D02"  
 /issue\_type="leaf"  
 /lab\_host="EMDH10B"  
 /clone\_lib="MP1Z-ADIS-024-leaf"  
 /note="Vector: PCWVSP0RT6; Site 1: SalI; Site 2: NotI;  
 cDNA library from sugar beet library provided by KWS  
 Kleinwanzlebener Saatgut AG Einbeck, Germany, contact:  
 b.schulz@kws.de; Cloning sites SalI-NotI, primer sites and  
 orientation:  
 SP6-Sali-CCACGCGTCGCG-5prime-cDNA-polyA-CC-NotI-T7; Note:  
 Sequencing granted in the context of the GABI-Beet  
 project, local PI: Dr. Katharina Schneider, coordinator:  
 Prof. Christian Jung; Sequence submission managed by  
 R2PD/GABI-Primary database: http://gabi.rzpd.de"

ORIGIN  
 Query Match 58.2%; Score 12.8; DB 5; Length 51;  
 Best Local Similarity 87.5%; Pred. No. 7.9e+04;  
 Matches 14; Conservative 0; Mismatches 2; Indels 0; Gaps 0;  
 QY 6 GTGAACGTTGAGATG 21  
 |||||  
 Db 21 GTGAACCTTTGAGATG 36

RESULT 40  
 LOCUS AL941969 79 bp DNA linear GSS 01-APR-2004  
 DEFINITION Arabidopsis thaliana T-DNA flanking sequence GK-262C07-014951,  
 genomic survey sequence.  
 ACCESSION AL941969  
 VERSION AL941969.1 GI:24398567  
 KEYWORDS GSS.  
 SOURCE Arabidopsis thaliana (thale cress)

ORGANISM Arabidopsis thaliana  
 Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;  
 Spermatophyta; Magnoliophyta; eudicotyledons; core eudicots;  
 rosids; eurosids II; Brassicales; Brassicaceae; Arabidopsis.  
 REFERENCE 1  
 Li, Y., Rosso, M.G., Strizhov, N., Viehovever, P. and Weishaar, B.  
 GABI-Kat SimpleSearch: a flanking sequence tag (FST) database for  
 the identification of T-DNA insertion mutants in Arabidopsis  
 thaliana  
 Bioinformatics 19 (11), 1441-1442 (2003)  
 JOURNAL MEDLINE 22755829  
 PUBMED 12874060  
 REFERENCE 2  
 Rosso, M.G., Li, Y., Strizhov, N., Reiss, B., Dekker, K. and  
 Weishaar, B.  
 An Arabidopsis thaliana T-DNA mutagenized population (GABI-Kat) for  
 flanking sequence tag-based reverse genetics  
 Plant Mol. Biol. 53 (1-2), 247-259 (2003)  
 JOURNAL MEDLINE 23117147  
 PUBMED 14756321  
 REFERENCE 3  
 Strizhov, N., Li, Y., Rosso, M.G., Viehovever, P., Dekker, K.A. and  
 Weishaar, B.  
 High-throughput generation of sequence indexes from T-DNA  
 mutagenized Arabidopsis thaliana lines  
 Biotechniques 35 (6), 1164-1168 (2003)  
 JOURNAL MEDLINE 14682050  
 PUBMED  
 4 (bases 1 to 79)  
 Li, Y., Rosso, M.G., Strizhov, N. and Weishaar, B.  
 Direct Submission  
 Submitted (31-MAR-2004) Weishaar B., Max-Planck-Institut fuer  
 Zuechtungsforchung, Carl-von-Linne-Weg 10, Koeln, 50829, Germany  
 This sequence has been recovered from the left border of the T-DNA.  
 It indicates an insertion within the locus defined by BAC clone  
 M412. Details on the protocols used for generation of the sequence  
 are described in References 1-3. The sequences are generated at the  
 MPI for Plant Breeding Research in the context of the GABI-Kat  
 project. GABI-Kat is part of the German Plant Genomics program  
 designated 'GABI'. Information on line availability can be found  
 at: http://www.mpiz-koeln.mpg.de/GABI-Kat/.  
 Location/Qualifiers  
 1..79  
 /organism="Arabidopsis thaliana"  
 /mol\_type="genomic DNA"  
 /strain="Columbia 0"  
 /db\_xref="taxon:3702"  
 /clone="GK-262C07-014951"  
 /clone\_lib="Arabidopsis thaliana T-DNA insertion lines"  
 /ecotype="Col-0"  
 /note="PCR was performed on DNA from Arabidopsis thaliana  
 plants (T1) which were transformed with the T-DNA from  
 vector PAC161 (GenBank accession number: AJ537514). The  
 lines contain one or more T-DNA insertions. The DNA  
 fragment (s) resulting from the PCR were directly sequenced  
 to determine the genomic sequence flanking the insertion.  
 T-DNA derived sequences were removed."

ORIGIN  
 Query Match 58.2%; Score 12.8; DB 9; Length 79;  
 Best Local Similarity 87.5%; Pred. No. 8.5e+04;  
 Matches 14; Conservative 0; Mismatches 2; Indels 0; Gaps 0;  
 QY 7 TGAACGTTGAGATGA 22  
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 Db 26 TGAATGATCGAGATGA 41

Search completed: October 30, 2004, 19:26:17  
 Job time : 1564 secs

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RESULT 2  
BD185615  
LOCUS  
DEFINITION Anti-tumor antigens or their epitopes against HTLV-I tumor.  
ACCESSION BD185615  
VERSION BD185615.1 GI:31877815  
KEYWORDS JP 2002372532-A/1.  
SOURCE  
ORGANISM  
REFERENCE  
AUTHORS Hanabuchi, S., Ohashi, T. and Kannagi, M.  
TITLE Anti-tumor antigens or their epitopes against HTLV-I tumor  
JOURNAL Patent: JP 2002372532-A 1 26-DEC-2002;  
COMMENT OS JAPAN SCIENCE AND TECHNOLOGY CORP  
OS Artificial Sequence  
PM JP 2002372532-A/1  
PD 26-DEC-2002  
PR 08-MAY-2001 JP 2001137526  
PT SHINO HANABUCHI, TAKASHI OHASHI, MARI KANNAGI  
PC G01N33/50, A61K39/00, A61P35/00, A61P35/02, A61P37/04,  
PC C07K7/06,  
PC C12N5/06, C12Q1/02, G01N33/00, G01N33/15, G01N33/53, G01N33/53, PC  
G01N33/566  
PC G01N33/574  
CC Description of Artificial Sequence: ISS-ODN  
FH Key  
FT source  
FT Location/Qualifiers  
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/mol\_type="genomic DNA"  
/db\_xref="taxon:32630"

ORIGIN  
Query Match 100.0%; Score 22; DB 6; Length 22;  
Best Local Similarity 100.0%; Pred. No. 0.47;  
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;  
Qy 1 TGACTGTGAACGTTCCGAGATGA 22  
Db 1 TGACTGTGAACGTTCCGAGATGA 22

RESULT 3  
BD190435  
LOCUS  
DEFINITION Microemulsions with Adsorbed Macromolecules and Microparticles.  
ACCESSION BD190435  
VERSION BD190435.1 GI:33000174  
KEYWORDS JP 2002537102-A/19.  
SOURCE  
ORGANISM  
REFERENCE  
AUTHORS Barackman, J., Simph, M., Ugozoli, M., Kazazu, J., Donnelly, J.,  
TITLE Microemulsions with Adsorbed Macromolecules and Microparticles  
JOURNAL Patent: JP 2002537102-A 19 05-NOV-2002;  
COMMENT OS Chiron Corporation  
OS Artificial Sequence  
PM JP 2002537102-A/19  
PD 05-NOV-2002  
PR 09-FEB-2000 JP 2000600618  
PR 29-JUL-1999 US 60/146391, 28-OCT-1999 US 60/161997, PR  
26-FEB-1999 US 60/121858  
PT John Barackman, manmohan simph, mildred ugozoli, jina kazazu, john  
PI donnelly,  
PI gary s otf, derek ohagan  
CC Oligonucleotide

FEATURES  
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/mol\_type="genomic DNA"  
/db\_xref="taxon:32630"

ORIGIN  
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Best Local Similarity 100.0%; Pred. No. 0.47;  
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;  
Qy 1 TGACTGTGAACGTTCCGAGATGA 22  
Db 1 TGACTGTGAACGTTCCGAGATGA 22

RESULT 4  
BD228690  
LOCUS  
DEFINITION Methods and adjuvants for stimulating mucosal immunity.  
ACCESSION BD228690  
VERSION BD228690.1 GI:33038460  
KEYWORDS JP 2002526425-A/19.  
SOURCE  
ORGANISM  
REFERENCE  
AUTHORS Raz, B., Horner, A. A. and Carson, D. A.  
TITLE Methods and adjuvants for stimulating mucosal immunity  
JOURNAL THE REGENTS OF THE UNIVERSITY OF CALIFORNIA  
COMMENT OS Artificial Sequence  
PM JP 2002526425-A/19  
PD 20-AUG-2002  
PR 15-SEP-1999 JP 2000573397  
PR 05-OCT-1998 US 09/167039  
PT EYAL RAZ, ANTHONY A HORNER, DENNIS A CARSON  
PC A61K39/39, A61K31/7088, A61K31/7105, A61K31/711, A61P11/00 PC  
PC C12N15/09, G01N33/15, G01N33/50//C12N5/10, G01N33/531, C12N15/00,  
PC C12N5/00  
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FH Key  
FT source  
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/mol\_type="genomic DNA"  
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Best Local Similarity 100.0%; Pred. No. 0.47;  
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;  
Qy 1 TGACTGTGAACGTTCCGAGATGA 22  
Db 1 TGACTGTGAACGTTCCGAGATGA 22

RESULT 5  
BD233617  
LOCUS  
DEFINITION Immunostimulatory oligonucleotides, compositions thereof and  
METHODS OF USE THEREOF.  
ACCESSION BD233617  
VERSION BD233617.1 GI:33043387  
KEYWORDS JP 2002517156-A/2.  
SOURCE  
ORGANISM  
unidentified  
unclassified.



REFERENCE 1 (bases 1 to 22)  
AUTHORS Schwartz,D., Roman,M., Dina,D. and Raz,E.  
TITLE Immunostimulatory oligonucleotides, compositions thereof and methods of use thereof  
JOURNAL Patent: JP 2002517156-A 2 11-JUN-2002;  
COMMENT DYNAAVAX TECHNOLOGIES CORP  
OS Unidentified  
PN JP 2002517156-A/2  
PD 11-JUN-2002  
PF 05-JUN-1998 JP 199502884  
PR 06-JUN-1997 US 60/048793  
PI DAVID SCHWARTZ, MARK ROMAN, DINO DINA, EYAL RAZ  
PC C12N15/09, A61K31/7088, A61K31/7115, A61P37/02, A61P43/00, C12Q1/68, PC C12N15/00  
CC Strandedness: Single;  
CC Topology: Linear;  
CC Immunostimulatory oligonucleotides, compositions thereof and methods of use thereof  
CC use thereof  
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ORIGIN  
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Best Local Similarity 100.0%; Pred. No. 0.47;  
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 TGAAGTGAACGTTTCGAGATGA 22  
1 TGAAGTGAACGTTTCGAGATGA 22

Db 1 TGAAGTGAACGTTTCGAGATGA 22

RESULT 6  
BD251283 22 bp DNA linear PAT 17-JUN-2003  
LOCUS Enhancement of Neisseria antigen bactericidal activity using CG  
DEFINITION motif-containing oligonucleotide.  
ACCESSION BD251283  
VERSION BD251283.1 GI:33061053  
KEYWORDS JP 2002537353-A/19.  
SOURCE synthetic construct  
ORGANISM other sequences: artificial sequences.  
REFERENCE 1 (bases 1 to 22)  
AUTHORS Grandi,G., Rappuoli,R., Giuliani,M.M. and Pizze,M.  
TITLE Enhancement of Neisseria antigen bactericidal activity using CG motif-containing oligonucleotide  
JOURNAL Patent: JP 2002537353-A 19 05-NOV-2002;  
COMMENT CHIRON SPA  
OS Artificial Sequence  
PN JP 2002537353-A/19  
PD 05-NOV-2002  
PF 09-FEB-2000 JP 200600685  
PR 26-FEB-1999 US 60/121792  
PI GUIDO GRANDI, RINO RAPPUOLI, MARZIA MONICA GIULIANI, MARIAGRAZIA PI PIZZA  
PC A61K39/095, A61K31/7088, A61K39/39, A61P31/04, C07K14/22, C12N15/09, C12N15/00  
CC oligonucleotide adjuvant  
FH Key  
FT source  
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ORIGIN /db\_xref="taxon:32630"

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Best Local Similarity 100.0%; Pred. No. 0.47;  
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 TGAAGTGAACGTTTCGAGATGA 22  
1 TGAAGTGAACGTTTCGAGATGA 22

Db 1 TGAAGTGAACGTTTCGAGATGA 22

RESULT 7  
BD272057 22 bp DNA linear PAT 17-JUN-2003  
LOCUS Use of stabilized oligonucleotide for producing agents having antitumor activity.  
DEFINITION Use of stabilized oligonucleotide for producing agents having antitumor activity.  
ACCESSION BD272057  
VERSION BD272057.1 GI:33081825  
KEYWORDS JP 2002539265-A/2.  
SOURCE synthetic construct  
ORGANISM synthetic construct  
REFERENCE Other sequences: artificial sequences.  
AUTHORS 1 (bases 1 to 22)  
TITLE Carpenter,A.  
JOURNAL Use of stabilized oligonucleotide for producing agents having antitumor activity  
PATENT: JP 2002539265-A 2 19-NOV-2002;  
COMMENT ASSISTANCE PUBLIQUE HOPITAUX DE PARIS, INSTITUT NATIONAL DE LA SANTE ET DE LA RECHERCHE MEDICALE (INSERM)  
OS Artificial Sequence  
PN JP 2002539265-A/2  
PD 19-NOV-2002 JP 200606246  
PF 17-MAR-2000 JP 200606246  
PR 19-MAR-1999 FR 99/03433  
PI ANTOINE CARPENTIER  
PC A61K47/48, A61K31/711, A61P35/00  
CC Description of the Artificial Sequence: oligodeoxynucleotide  
FH Key  
FT source  
FEATURES  
source Location/Qualifiers  
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ORIGIN

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Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 TGAAGTGAACGTTTCGAGATGA 22  
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Db 1 TGAAGTGAACGTTTCGAGATGA 22

RESULT 8  
AR268334 22 bp DNA linear PAT 10-APR-2003  
LOCUS Sequence 19 from patent US 6498148.  
DEFINITION AR268334  
ACCESSION AR268334  
VERSION AR268334.1 GI:29698684  
KEYWORDS  
SOURCE Unknown.  
ORGANISM Unknown.  
REFERENCE Unclassified.  
AUTHORS 1 (bases 1 to 22)  
TITLE Raz,E.  
JOURNAL Immunization-free methods for treating antigen-stimulated inflammation in a mammalian host and shifting the host's antigen immune responsiveness to a Th1 phenotype  
PATENT: US 6498148-A 19 24-DEC-2002;

FEATURES Location/Qualifiers  
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Query Match 100.0%; Score 22; DB 6; Length 22;  
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Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 TGAAGTGAACGTTTCGAGATGA 22  
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1 TGAAGTGAACGTTTCGAGATGA 22

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RESULT 9  
AR287741 22 bp DNA linear PAT 12-JUN-2003  
LOCUS AR287741  
DEFINITION Sequence 1 from patent US 6534062.  
ACCESSION AR287741  
VERSION AR287741.1 GI:31674761  
KEYWORDS  
SOURCE  
ORGANISM  
REFERENCE  
1 (bases 1 to 22)  
Raz, E., Cho, H.-J., Richman, D. and Horner, A.A.  
METHODS for increasing a cytotoxic T lymphocyte response in vivo  
JOURNAL Patent: US 6534062-A 1 18-MAR-2003;  
FEATURES Location/Qualifiers  
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Best Local Similarity 100.0%; Pred. No. 0.47;  
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 TGAAGTGAACGTTTCGAGATGA 22  
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1 TGAAGTGAACGTTTCGAGATGA 22

## Db

RESULT 10  
AR287743 22 bp DNA linear PAT 12-JUN-2003  
LOCUS AR287743  
DEFINITION Sequence 3 from patent US 6534062.  
ACCESSION AR287743  
VERSION AR287743.1 GI:31674763  
KEYWORDS  
SOURCE  
ORGANISM  
REFERENCE  
1 (bases 1 to 22)  
Raz, E., Cho, H.-J., Richman, D. and Horner, A.A.  
METHODS for increasing a cytotoxic T lymphocyte response in vivo  
JOURNAL Patent: US 6534062-A 3 18-MAR-2003;  
FEATURES Location/Qualifiers  
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/mol\_type="genomic DNA"

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Best Local Similarity 100.0%; Pred. No. 0.47;  
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 TGAAGTGAACGTTTCGAGATGA 22  
|||||  
1 TGAAGTGAACGTTTCGAGATGA 22

## Db

RESULT 11  
AR308057 22 bp DNA linear PAT 12-JUN-2003  
LOCUS AR308057  
DEFINITION Sequence 1 from patent US 6552006.  
ACCESSION AR308057  
VERSION AR308057.1 GI:31698950  
KEYWORDS  
SOURCE  
ORGANISM  
REFERENCE  
1 (bases 1 to 22)  
Raz, E., Kornbluth, R., Catanzaro, A., Hayaishi, T. and Carson, D.  
Immunomodulatory polynucleotides in treatment of an infection by an intracellular pathogen  
JOURNAL Patent: US 6552006-A 1 22-APR-2003;  
FEATURES Location/Qualifiers  
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/mol\_type="genomic DNA"

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## Db

RESULT 12  
AR352573 22 bp DNA linear PAT 17-AUG-2003  
LOCUS AR352573  
DEFINITION Sequence 2 from patent US 6589940.  
ACCESSION AR352573  
VERSION AR352573.1 GI:33757824  
KEYWORDS  
SOURCE  
ORGANISM  
REFERENCE  
1 (bases 1 to 22)  
Raz, E., Roman, M. and Dina, D.  
Immunostimulatory oligonucleotides, compositions thereof and methods of use thereof  
JOURNAL Patent: US 6589940-A 2 08-JUL-2003;  
FEATURES Location/Qualifiers  
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Query Match 100.0%; Score 22; DB 6; Length 22;  
Best Local Similarity 100.0%; Pred. No. 0.47;  
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 TGAAGTGAACGTTTCGAGATGA 22  
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## Db

RESULT 13  
AR383158 22 bp DNA linear PAT 18-DEC-2003  
LOCUS AR383158  
DEFINITION Sequence 1 from patent US 6610661.  
ACCESSION AR383158  
VERSION AR383158.1 GI:40092605  
KEYWORDS  
SOURCE  
ORGANISM  
REFERENCE  
1 (bases 1 to 22)  
Carson, D.A., Raz, E. and Roman, M.  
Immunostimulatory polynucleotide/immunomodulatory molecule

Query Match 100.0%; Score 22; DB 6; Length 22;  
Best Local Similarity 100.0%; Pred. No. 0.47;  
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 TGAAGTGAACGTTTCGAGATGA 22  
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1 TGAAGTGAACGTTTCGAGATGA 22

## Db

RESULT 14  
AR383158 22 bp DNA linear PAT 18-DEC-2003  
LOCUS AR383158  
DEFINITION Sequence 1 from patent US 6610661.  
ACCESSION AR383158  
VERSION AR383158.1 GI:40092605  
KEYWORDS  
SOURCE  
ORGANISM  
REFERENCE  
1 (bases 1 to 22)  
Carson, D.A., Raz, E. and Roman, M.  
Immunostimulatory polynucleotide/immunomodulatory molecule

Query Match 100.0%; Score 22; DB 6; Length 22;  
Best Local Similarity 100.0%; Pred. No. 0.47;  
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 TGAAGTGAACGTTTCGAGATGA 22  
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1 TGAAGTGAACGTTTCGAGATGA 22

## Db

RESULT 15  
AR383158 22 bp DNA linear PAT 18-DEC-2003  
LOCUS AR383158  
DEFINITION Sequence 1 from patent US 6610661.  
ACCESSION AR383158  
VERSION AR383158.1 GI:40092605  
KEYWORDS  
SOURCE  
ORGANISM  
REFERENCE  
1 (bases 1 to 22)  
Carson, D.A., Raz, E. and Roman, M.  
Immunostimulatory polynucleotide/immunomodulatory molecule

Query Match 100.0%; Score 22; DB 6; Length 22;  
Best Local Similarity 100.0%; Pred. No. 0.47;  
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 TGAAGTGAACGTTTCGAGATGA 22  
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1 TGAAGTGAACGTTTCGAGATGA 22

## Db

RESULT 16  
AR383158 22 bp DNA linear PAT 18-DEC-2003  
LOCUS AR383158  
DEFINITION Sequence 1 from patent US 6610661.  
ACCESSION AR383158  
VERSION AR383158.1 GI:40092605  
KEYWORDS  
SOURCE  
ORGANISM  
REFERENCE  
1 (bases 1 to 22)  
Carson, D.A., Raz, E. and Roman, M.  
Immunostimulatory polynucleotide/immunomodulatory molecule

Query Match 100.0%; Score 22; DB 6; Length 22;  
Best Local Similarity 100.0%; Pred. No. 0.47;  
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 TGAAGTGAACGTTTCGAGATGA 22  
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## Db

JOURNAL Conjugates  
Patent: US 6610661-A 1 26-AUG-2003;  
FEATURES Location/Qualifiers  
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## ORIGIN

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## RESULT 14

AR392162 AR392162 22 bp DNA linear PAT 18-DEC-2003  
LOCUS Sequence 1 from patent US 6613751.  
DEFINITION AR392162  
ACCESSION AR392162  
VERSION AR392162.1 GI:40116139  
KEYWORDS  
SOURCE Unknown.  
ORGANISM Unknown.  
Unclassified.

REFERENCE 1 (bases 1 to 22)  
AUTHORS Raz,B. and Rachmitlewitz,D.  
TITLES Method for treating inflammatory bowel disease and other forms of  
gastrointestinal inflammation  
JOURNAL Patent: US 6613751-A 1 02-SEP-2003;  
FEATURES Location/Qualifiers  
source 1..22  
/organism="unknown"  
/mol\_type="genomic DNA"

## ORIGIN

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## RESULT 15

AR535277 AR535277 22 bp DNA linear PAT 08-OCT-2004  
LOCUS Sequence 2 from patent US 6737066.  
DEFINITION AR535277  
ACCESSION AR535277  
VERSION AR535277.1 GI:53926303  
KEYWORDS  
SOURCE Unknown.  
ORGANISM Unknown.  
Unclassified.

REFERENCE 1 (bases 1 to 22)  
AUTHORS Moss,R.B.  
TITLES HIV immunogenic compositions and methods  
JOURNAL Patent: US 6737066-A 2 18-MAY-2004;  
FEATURES Location/Qualifiers  
source 1..22  
/organism="unknown"  
/mol\_type="genomic DNA"

## ORIGIN

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Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 TGACTGTGAACGTTGAGATGA 22  
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1 TGACTGTGAACGTTGAGATGA 22

Db 1 TGACTGTGAACGTTGAGATGA 22

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